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25 Million and Growing:

Despite Poverty, Illness, And Inefficient Programs, U.S. Elderly Are Coping

by Mary Barberis

One out of every nine Americans is 65 years old or older. As the country continues to "age" due to lowered birth rates and increased longevity, this group will increase at a far faster rate than the national population; yet despite an annual outlay of $155 billion and 48 federal programs aimed specifically at the elderly, one-quarter of this already substantial minority of 25 million people lives near or below the poverty line.

In PRB's November *Population Bulletin*, "America's Elderly in the 1980's," the picture emerges of a burgeoning senior population faced with a maze of government programs that are less and less able to meet their real needs

"If all programs that affect the elderly in some way are included in the inventory, there are at least 135 and perhaps as many as 200 programs at the federal level," writes Bulletin author Beth J. Soldo, Georgetown University demographer and gerontologist. "They come under the jurisdiction of 49 Congressional committees and subcommittees and are administered by seven Executive departments and five independent agencies." It is not surprising that many senior citizens are not adequately covered under a system that makes it each elderly individual's responsibility to "determine what kind of services he or she needs, where they are available, and how to orchestrate a comprehensive service package," she points out. Even in communities where all services are available, there is no single source of evaluation and access to the vast, often confusing array of programs.

A quarter of the federal budget—$155 billion in fiscal year 1980—goes to support America's elderly, mainly in the form of Social Security and health care benefits. But the Social Security system is already facing financial woes and will encounter a major hurdle after 2010 when the postwar "baby boom" generation reaches retirement age, Soldo observes. Because fertility has dropped off dramatically during the past two decades, the ratio of seniors to persons of working age will go up sharply. Already it takes three workers to pay for the benefits of one retiree. After 2010 there will be only

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PRB MEMBERSHIP

In addition to monthly copies of INTERCOM, PRB members receive six in-depth POPULATION BULLETINS annually, the widely used WORLD POPULATION DATA SHEET wall chart with current data (updated yearly) for 165 countries, and other special publications. Individual memberships are $25 per year, $15 for college teachers, $10 for school teachers and $5 for students. Rates for school, university, and public libraries are $30; institutions or firms, $100; sent to the Circulation Department at the above address. Educator, library, student and institutional members also receive INTERCHANGE, a population education newsletter, and ready-to-use classroom materials four times during the school year.

More State Census Figures

The U.S. Census Bureau recently released preliminary 1980 Census figures for nine states, as follows (see also the Oct. 1980 INTERCOM):

State	Preliminary 1980 Census total	% change from 1970 Census
Arizona	2,714,013	52.9
Colorado	2,866,726	30.2
Hawaii	964,624	25.3
Idaho	943,134	32.3
Maryland	4,193,378	6.9
Nevada	797,899	63.3
North Carolina	5,842,110	14.9
Washington	4,109,634	20.4
West Virginia	1,928,524	10.6

Making an End Run Around Blocked Fallopian Tubes

Scientists at the National Institute of Child Health and Human Development have developed a new procedure, called low tubal ovum transfer, which they hope will aid conception in women with blocked fallopian tubes. To date, the procedure has been tested only on monkeys but the researchers are optimistic that the studies will be applicable to humans.

In normal reproduction, pregnancy occurs when an egg cell is released from the ovary into the fallopian tube and fertilized there by sperm cell. Women whose fallopian tubes are blocked are not able to conceive. Fallopian tube blockage, the most common cause of infertility in women, can be repaired by surgery in only about one-quarter of the cases. Presently, the only remedy for irreparable tubal blockage is *in vitro* (test tube) fertilization, which so far has yielded very low pregnancy rates.

In the process of low tubal ovum transfer, an egg is removed from a ripening follicle in the ovary with a hollow needle and reinserted almost immediately into the fallopian tube, below the point of blockage. This allows for a normal *in vivo* (inside the body) fertilization to take place. Scientists at NICHD tested their procedure on a group of 55 rhesus and cynomolgus monkeys. They monitored the monkeys' blood hormone levels to determine when their ovaries would release an egg and were successful in extracting egg cells from 31 monkeys. Of these, five monkeys became pregnant, a success rate of 16 percent. In normal human reproduction, there is a 15-20 percent chance of becoming pregnant in any menstrual cycle.

Due to the similarities between human and monkey reproductive systems, scientists are hopeful that low tubal ovum transfer will be equally successful in humans. The procedure allows for conditions much closer to normal fertilization than are possible with *in vitro* fertilation. Further, it "avoids many of the scientific and ethical problems associated with *in vitro* fertilization," according to Dr. Gary Hogden who helped to develop the method. Scientists stress that it will be an effective procedure only for women who do not have fallopian tube blockage near the uterus.

White House Families Conference Issues Final Report

by Ilene Markbreiter

In 1976, President Carter proposed a conference to "examine the strengths of American families, the difficulties they face, and the ways in which family life is affected by public policies." Now, four years later in 1980, the White House Conference on Families has issued its final comprehensive report to the President, summarizing the proposals that came out of the conference process in which more than 125,000 Americans participated at the national, state, and community level. This is designed to lay the groundwork for practical action in the legislative and private sectors.

According to Chairman Jim Guy Tucker, Carter called the conference because he believed official America had lost touch with family America. "The President sought to close this gap by bringing together scholars, public officials, leaders of religious and community groups, and most important, American families themselves in the first White House Conference on Families."

Some 500 forums at the state and community level and 14 days of national hearings were conducted throughout the country, leading up to the three major national Conferences—in Baltimore, Minneapolis, and Los Angeles—that were held this summer beginning on June 5, 1980. As in most gatherings of diverse groups, the three national Conferences were hardly devoid of dissent. In each meeting, a large group of conservative delegates walked out.

At the first Conference in Baltimore, it was the National Pro-Family Coalition, a group whose members oppose feminism, abortion, and the Equal Rights Amendment. They claimed that the Conference was pro-ERA, pro-abortion, pro-sexual preference, pro-guaranteed annual income, and pro-national health insurance, and that their point of view had been denied a fair hearing. They also charged that they had been systematically shut out of the conference both in the selection of delegates and in the debating of the issues.

At the two remaining Conferences, conservative delegates again walked out claiming the odds were stacked against them. At the second Conference in Minneapolis, the walkout was conducted after Chairman Tucker refused a motion to separate votes by elected and appointed delegates. (About 30 percent of the Conference delegates were elected at state meetings, while the remaining 70 percent were appointed by governors and a national advisory committee.)

Despite disagreements however, the majority of the participants did find themselves in agreement on a range of issues. At the Minneapolis Conference, 50 recommendations were approved out of 55 proposed, and at the final Conference in Los Angeles, bitter debate over the Equal Rights Amendment, abortion, and teenage access to contraception nonetheless led to the delegates' endorsement of these proposals, all passed by substantial margins.

The five recommendations that garnered the greatest support at the three Conferences were:

- Adoption by employers of such family-oriented policies as flexible working hours, negotiable leave time, shared and part-time jobs, and sensitivity to the effects of job location transfers.
- Efforts to stem alcohol and drug abuse through education and the press.
- Changes in the tax code to eliminate the marriage penalty, revise inheritance taxes, and recognize the financial contribution of the homemaker.
- Tax policies to encourage care at home of the aged and handicapped.
- Increased financial assistance to families with a handicapped member.

The proposed Equal Rights Amendment, abortion, and sex education issues that created dissension throughout the conferences also received recommendations but were given secondary listings in the report.

These recommendations, along with a host of others, were sent to the National Task Force, a 117-member group

Continued on next page

Major Health Survey Coming

A World Health Survey is coming.

A project that is being created by the U.S. Centers for Disease Control, the Survey will be a major international data-gathering enterprise that could, in the 1980s, be as sweeping and comprehensive in its own way as the World Fertility Survey has been in the 1970s and early 80s.

The project will continue into the decade, in cooperation with the Agency for International Development, World Health Organization, UN, and the national ministries of health in the countries being surveyed.

"The surveys will be the key to our knowledge of disease distribution and containment in the less developed countries," said R.T. Ravenholt, the WHS's Director. Ravenholt, who energetically served as Director of the Office of Population of the U.S. Agency for International Development for 13 years, is being detailed from the U.S. State Dept. to CDC to start up and direct the WHS. Initially, the WHS will be run out of CDC offices in Rockville, Md.

"We envision representative household surveys and other surveys done [in different countries] with World Health Survey leadership and support, that would not only measure fertility, but would also measure morbidity and mortality and determinants thereof, such as the availability of potable water, food, immunization, and other health resources," Ravenholt said. Ideally, the WHS in a given country would consist of three surveys: a baseline survey, followed by an interventionist program of health services; a midcourse survey, measuring the change in the country's health status and the effectiveness of the programs; and an end-of-the-program survey.

Ravenholt places particular emphasis on the interaction of the surveys and the intervention programs. The surveys would be the key to finding out the extent of disease distribution and status, in order to design and target health programs. The followup surveys would be invaluable in measuring the effectiveness of different health programs, whose thrust could be changed or fine-tuned on the basis of the survey results.

For the next year or so the WHS project will be involved in organization and setting up the methods of the first surveys, which might be taken in the first countries in late 1981 or early 1982. As the data start to come in on a regular basis, the WHS would move into high gear, and become an ongoing operation employing epidemiologists, demographers, and expert statisticians in the U.S. and other countries.

Continued from preceding page

created to summarize Conference recommendations and identify strategies for their implementation. Following the Task Force's meeting on Aug. 21, organizers announced their strategy for putting the proposals into effect.

"We will work just as hard to translate these recommendations into reality as we have worked to gather the views and proposals of so many families," Tucker said. "The 14 days of hearings, hundreds of events, and three White House Conferences have proven that families agree far more than they disagree on how to make our institutions more sensitive to the needs of families."

During the opening luncheon at the first Conference in Baltimore, President Carter told the delegates, "Where it is harmful, let it be changed." The President recently renewed his pledge to "make sure this report does not sit on the shelves in Washington..." But just how far-reaching and meaningful the proposals will be remains to be seen.

The Conference may have been able to raise the "family" consciousness of its own delegates; however, the ultimate test of its effectiveness will be whether or not the delegates can muster enough political clout to catalyze the recommendations into public law and private policy.

PRB Materials to China

The Population Reference Bureau will soon begin a special distribution of its demographic materials in the People's Republic of China. This project, which is being underwritten by the China Concerns Committee of the United Board for Christian Higher Education in Asia, a New York-based organization, aims to assist the ongoing advancement of demography and population science in China.

Eleven population research centers will receive PRB materials on a continuing basis. They are: the Population Economics Research Institute in Beijing (Peking), the Population Research Group at Fudar University in Shanghai, the Population Research Institute in Jilin Province, the Population Research Group at Zhongshan University in Guangzhou, the Population Research Group at Lanzhou University, the Population Research Group at the University of Nanjing, the Dept. of Health Statistics at Shanghai First Medical College, the Population Research Group at Nankai University in Tianjin, the Institute of Population Research in Beijing, and the Chinese Sociological Research Association in Beijing. PRB was advised of these institutions by Pi-chao Chen of the University of Michigan.

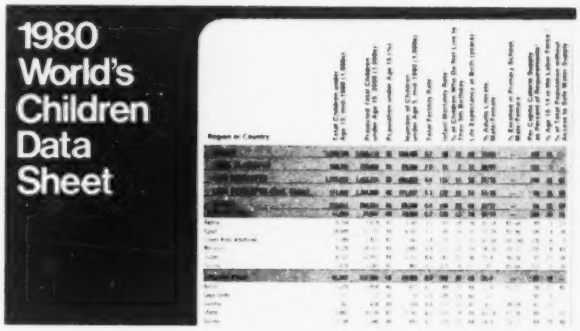
The idea of the distribution originated during the Fall 1979 visit to Washington, D.C., of the Study Tour of Demographic Training and Research from the People's Republic of China. While at PRB offices, the group was briefed on PRB's work and experience in population and demographic issues. Subsequently, Pi-chao Chen of the University of Michigan advised PRB on the distribution.

Too Much Undercount Fuss?

The allegedly enormous effects of 1980 Census undercounts on federal urban-area funding may be greatly exaggerated. Political scientists point out that population counts are not the only factors involved in determining the amount of federal aid granted to cities. Richard Nathan, director of Princeton University's Urban and Regional Research Center calls the undercount issue "a molehill that has been made into a mountain." For example, New York City officials estimate that the city would lose $200 a year in federal and state aid for every person missed by the Census. Nathan feels that the city would lose no more than $2 per person, the New York Times reports.

Because fund distribution formulas include other factors such as income and tax effort, population figures are not as important as they once were. An additional "shock absorber" is the fact that sometimes only part of the money is distributed by formula and the rest is allocated at the discretion of the sponsoring federal agency. A last factor is the relativeness of undercounts generally; an undercount is one city is only significant if it is proportionally greater than undercounts in other cities.

The World's Children—1980



The 1980 version of PRB's *World's Children Data Sheet* is now available in English, French, and Spanish editions. These Data Sheets, published in collaboration with UNICEF, offer detailed data on numbers, nutrition, education, and life expectancies of children in 163 countries, and draw attention to the health and well-being of the world's children, particularly the gap that exists between children living in more developed and less developed areas.

The 1980 Data Sheet includes these disturbing statistics:

- 98 out of every 1,000 babies born in the world die before their first birthday. In the U.S, the figure is 13 per 1,000; in Africa as a whole, it is 140 (that is, one out of seven African babies dies).
- Some 12 percent of children born do not live to see their fifth birthday. In the less developed countries, this figure is 14-16 percent; in Africa, an enormous 20 percent.
- 11 percent of the world's children aged 10-14 are working; 18 percent of Africa's are.
- Caloric intake varies very widely; from Bulgaria, where caloric supply is put at 144 percent of requirements, to Chad, where caloric supply is only 74 percent of the amount considered necessary to maintain "moderate activity."
- 60 percent of the less developed countries' populations do not have access to a safe water supply.
- There are now some 1.54 billion children (under age 15) in the world. By 2000, this figure is projected to rise to 1.93 billion—a 25 percent rise in only 20 years, nearly all of which will occur in the less developed nations. All these children will require food and health care while they are growing up, need job openings when they reach working age, and will themselves form a vast population of potential parents during the rest of the century.

The *World's Children Data Sheet* is available from PRB at $1.00 each; 2-49 copies, 75¢ each; 50 or more copies, 50¢ each. Specify language (English, French, or Spanish) when ordering. Send order and remittance to PRB, Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036.

Brooklyn Fire Only One Of Census's Problems

A fire in the U.S. Census Bureau office in Brooklyn Oct. 27 destroyed the records for an estimated 225,000 Brooklyn residents, causing new headaches for the 1980 Census as the Census Bureau hurtles toward the Dec. 31, 1980 deadline when it must submit state population totals to the President.

An emergency door-to-door census canvass to re-gather the Brooklyn information began on Nov. 10. This new census may be hampered by the fact that the area affected is Bedford-Stuyvesant, one of the city's most depressed neighborhoods. Whether the area will respond favorably to a second census remains to be seen.

The fire came just at a time when New York City and New York State's suit against the Census Bureau was becoming more complex. The suit contends that the Bureau was substantially undercounting the city and the state, therefore depriving it of needed funds. The city wants the Bureau to recount the census with the city's help; when news of the fire and coming recount was announced, city officials expressed approval and wondered aloud why the Bureau did not recount the entire city as long as they were at it.

The New York suit is still in federal court. In a side issue of that suit, Census Director Vincent P. Barabba refused to comply with a federal court order to turn over the Census Bureau's city and state master address lists (with the names deleted) so that the city and state can see whether the lists are complete. "This position was taken by the Bureau," he announced, "in the belief that Federal statutory law prohibits disclosure of information in these lists because such disclosure would seriously distort public perception of the Bureau's ability to guarantee confidentiality. This in effect would undermine public confidence in the confidentiality of personal information."

(The New York Times reported New York Mayor Ed Koch's census advisor David R. Jones as saying: "I am more and more convinced that they are hiding something.")

Meanwhile, on the Detroit front, the Census Bureau has responded to U.S. District Court Judge Horace Gilmore, who in September ordered the 1980 Census invalid for reapportionment because of an expected undercount. He also ordered the Bureau to report on how it planned to accomplish the adjustment, and on Oct. 28 the Bureau filed a reply to the court indicating that in the Bureau's opinion, the 1980 headcount was so complete that the adjustment ordered by the court was in fact unnecessary. (In effect, the Bureau was saying that it was answering Judge Gilmore's objections simply by doing its job.)

Since the Census was continuing to find about 1.8 percent more people than had been estimated, it was the Bureau's contention that it had "flushed out" about 4 million people more than anticipated. And whereas on Oct. 3 Director Barabba had told the media that the Bureau was projecting a total count of 224 million, in the latest papers submitted to the court the 1980 Census grand total (based on extrapolating the preliminary counts completed thus far) was now projected by the Bureau to be 225,590,000—nearly a 2 million jump.

Continued next page

capsules

Irish contraceptives: As of Nov. 1, a new law in Ireland permits the sale of birth control devices, which formerly were only dispensed by family planning clinics in return for "contributions." But the new Family Planning Act was passed by the Parliment as a compromise between reformers and conservatives; thus, it allows (for the first time) contraceptive sales in drugstores, but only by prescription and only to married couples; it also forbids the clinics from continuing to distribute contraceptives unless they register with the government; and establishes a $1200 fine (first offense) for illegally selling contraceptives.

In 1979, there were 185 reported cases of leprosy in the U.S. These figures are among hundreds recorded in the "Annual Summary 1979: Reported Morbidity and Mortality in the United States," by the Center for Disease Control. Other statistics worth noting: There were 2 deaths among the 13 reported cases of plague; of the 26 cases of paralytic poliomyelitis reported in 1979, 11 were classified as "vaccine associated"; 28,874 cases of primary and secondary syphilis were reported in 1979, while 1,003,958 cases of gonorrhea were reported, making it the most frequently reported communicable disease in the United States

A.W. Clausen presently president and chief executive officer of the Bank of America, the largest private bank in the U.S., has been appointed to succeed Robert S. McNamara as president of the World Bank in July 1981. The appointment was made by President Carter and is subject to approval by World Bank's Board of Directors.

"What Is a Survey?" A nontechnical 24-page pamphlet from the American Statistical Association answers that question, with separate sections on the characteristics of surveys, how a survey is carried out, how the results of a survey are used, and what goes into making up a survey budget. "What Is a Survey?" is available (without charge up to 50 copies; 51 or more, 25¢ each) from the American Statistical Association, 806 15th St. N.W., Washington, D.C. 20005.

Continued from previous page

The Bureau has been adamant that it would not be swayed in its determination to report only its actual count (unadjusted) to the President for purposes of reapportionment. But (in the view of veteran Bureau watchers) the Bureau must be happy to argue that its higher-than-expected total seems to cover not only the expected numbers but also that invisible population of the previously uncounted.

On the other hand, the unexpected size of the new projected total could be seen as raising a question about the Bureau's intercensal projections. Does that 225.9 million projection really count every head, or does an uncounted population of thousands or millions exist above and beyond that total? Right now, no one knows.

Meanwhile, a rider to an appropriations bill threatens the 1980 Census from yet another quarter. An amendment sponsored by Rep. Joseph J. McDade (R-Pa.) prevents the expenditure of federal money by the Executive branch for delivering the results of the 1980 Census to Congress—a delivery that formally has to be made if the House is to be reapprotioned.

The purpose of Rep. McDade's amendment is to protest and block the counting of aliens (legal and illegal) for purposes of apportionment, even though the Constitution calls for a count of "the whole number of persons . . ." His amendment has passed the House; the bill containing it has been reported out of the Senate Appropriations Committee and awaits Senate action, which, if it happens at all, probably would happen during the post-election session of the lame-duck 96th Congress. (Congress still has not finished appropriations for Fiscal Year 1981, which started on Oct. 1, 1980.)

All in all, 1980 has been an event-crowded year the U.S. Bureau of the Census is unlikely to forget.

Hawaii's Growing Pains

In Hawaii, many people are concerned about population issues. Its rate of growth (1.8 percent per year during the 1970s) is twice as fast as that for the nation as a whole, and its population of 914,800 (1979 estimate) is overwhelmingly crowded onto the 6,425 square miles of the island of Oahu. In 1973, the state created the Commission on Population and the Hawaiian Future. In 1978 the Hawaii State Plan was adopted, including policies to diversify Hawaii's economy, protect agricultural activities, manage population growth so that it would not threaten Hawaii's basic resources, and direct growth to existing urban areas.

Because of its rapid growth, ethnic mix, and dependence on imports, Hawaii makes a uniquely interesting model for observing population effects on a society. PRB's new teaching module, *Population and Hawaii: A Case Study*, gives students a chance to use their analytic and problem-solving skills while learning both about Hawaii and about the basics of population dynamics. Prepared by PRB's Population Education Department for Educator members, the module includes readings, a wide variety of activities (from classroom discussion guides to a population crossword puzzle), and suggestions for outside research.

PRB on the Move

Meanwhile, during November, PRB's Population Education Director Elaine Murphy and Assistant Director Patricia Cancellier were in Hawaii giving workshops based on the *Population and Hawaii* module. Jointly sponsored by the State Commission on Population and the Hawaiian Future and PRB, the workshops—for high school teachers and curriculum specialists in various disciplines—took place on all four major islands—Oahu, Maui, the "Big Island" (Hawaii), and Kauai. The goal: to help educators include global, U.S., and Hawaii population dynamics in their classes.

The teaching module itself will appear as an insert in the Feb. 1981 issue of *Social Education*, the journal of the National Council for the Social Studies.

Copies of the teaching module *Population and Hawaii: A Case Study* are available for $1.00 each (two or more copies, 75¢ each). Orders and remittances should be sent to PRB, Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036.

Report Charts Women's Progress

In an effort to define and meet their own needs, in recent years women worldwide have formed what has been termed the "women's movement." And in doing so they have found that they do not have unique aspirations—that the issues they are raising are universal.

In a series of articles by development specialists and feminists, the latest *Draper Fund Report*, "Improving the Status of Women," sums up the progress of this global movement.

Aziza Hussein, president of the International Planned Parenthood Federation, writes that "women, throughout history, and within diverse cultural settings, have been subjected to all kinds of taboos and repressions in the name of patriarchy or family stability....They have been victimized," she asserts, "by double standards of morality and chastity and by rural practices bordering on atrocity such as female circumcision and virginity rituals."

Now, however, women are striving to achieve social and legal equality and to attain such goals as control over their own reproduction, family planning, involvement in population and development policies, and a general response to women's needs. As Carmen Delgado Votaw, president of the Inter-American Commission of Women, writes, "Women are increasingly realizing that they must reach out to learn about each other's cultures and to strengthen each other's 'movements.'"

Governments should try above all else to raise the status of women socially, economically, and politically, the *Report* quotes World Bank President Robert S. McNamara. In that way, they will be able to "experience directly the advantages of lowered fertility, and to channel their creative abilities over a much broader spectrum of choice." That, he said, is the goal of the "women's movement" today.

In her book, *The Sisterhood of Man*, Kathleen Newland said that "The world has changed for women. Now it is time for women to start changing the world." In many ways, the new Report shows the ways in which women throughout the world have begun to tackle this challenge.

For a free copy of the 28-page *Draper Fund Report* No. 9, Oct. 1980, "Improving the Status of Women," write the Population Crisis Committee, 1120 19th St. N.W., Washington, D.C. 20036.

Government Halted Again by Abortion-Language Wrangle

The federal government had its annual brush with extinction in October when conferees from the House of Representatives and the Senate became deadlocked (as they were last year) over stopgap funding to keep the government going into FY 1981 until Congress could get around to appropriating funds for the full fiscal year.

Once again the reason for the delay was abortion language. The House conferees took the position that they would pass the stopgap funding ("continuing resolution") only if the Senate went along with a House-passed amendment to the Medicaid appropriations bill restricting funding for abortion only to cases in which the mother's life is endangered. The existing law (the "Hyde Amendment") restricted funding to cases of life endangerment, or cases of promptly reported rape or incest.

Indicatively, the late-night abortion debate ultimately revolved around how many hours could elapse between a rape or incest and reporting it before a woman became ineligible for federal abortion funding. The House conferees originally wanted 48 hours maximum in each case, while Senators held out for 48 hours from the time a pregnancy in such case is confirmed. Finally the conferees compromised on a 72-hour reporting period for rape, no reporting time-limit requirement for incest. The conference committee cleared the bottled-up bills for passage, the President signed them into law, and the federal government received a desperately needed transfusion of money.

During the moneyless Oct. 1, the government survived; just as it did during 12 moneyless days last year, when a similar abortion impasse was reached. The threat to the government's operations was real, though; a legal opinion given last April by Attorney General Benjamin Civiletti said that in the the absence of appropriated funds, a government agency could lawfully only use money for "orderly termination"—that is, packing records in cardboard boxes and turning off the lights. While Congress would probably not let that happen, the Oct. 1 incident shows how determined much of Congress is about limiting abortion funding, even as a gesture; in this case, the wrangle that almost stopped the government is expected to affect about 100 abortions a year.

Chemotherapy Can Cause Sterility

Recent studies at cancer research centers have shown that long-term infertility is a common side effect of chemotherapy. Studies conducted jointly by the National Institute of Child Health and Human Development and the National Cancer Institute show that the drug combination responsible for curing Hodgkin's disease causes sterility in 95 percent of men and 50 percent of women treated. Patients' progress has been followed for as long as 12 years and the sterility has persisted.

Chances of drug-induced infertility are greater for men than for women because anticancer drugs inhibit rapid cell division and cell division is more frequent in the testes than in the ovaries. Eggs in the ovaries of women and the cells which produce sperm in men are destroyed by the four drugs used to treat Hodgkin's disease. So far, two classes of drugs, those containing alkylating agents and methylhydrazines, are known to cause damage to the testes and ovaries. However, more studies are needed to determine which drugs cause infertility, at what dosages, and how long the sterility will last. Followup studies are also needed to determine the effects of age at the time of treatment on future reproductive capabilities.

Regardless of these developments, Dr. Richard Sherins, an infertility specialist at NICHD, has pointed out that infertility is an acceptable side effect in view of the consequences of untreated cancers.

Sasakawa Honored by PCC

Ryoichi Sasakawa, Honorary Founder of the Draper Fund, addresses the reception given for him by the Population Crisis Committee, while interpreter Maki Hameda makes notes.

On Oct. 24, Ryoichi Sasakawa, Japanese philanthropist and business leader, visited Washington, where a reception in his honor was given by the Population Crisis Committee. There Sasakawa presented the Committee with a contribution of $750,000 from the Japanese Shipbuilding Industry Foundation, of which he is president. A portion of the grant will be used for PCC general operating expenses, with a larger proportion of the funds allocated to population organizations overseas.

Sasakawa is Honorary Founder of the Draper Fund, named for his friend, population pioneer Gen. William H. Draper. In addition to his long-time efforts in the population field, Sasakawa has worked on behalf of international health programs and other civic and social welfare causes. He is a well-known figure in the Japanese business world, most recently directing a massive salvage operation to bring gold and other treasure from the sunken Czarist Russian warship the *Admiral Nakhimov*.

In his speech to the PCC, Sasakawa addressed the question: "How can we save the world?" He pointed out that "there is no effect without a cause, and one of the causes of war is the increase in population. When there is too much population growth, the gap between the rich and the poor—and the rich and the poor nations—becomes too great. When that happens, the ill-fed, the ill-housed, and the ill-clothed people challenge the more privileged races and peoples to obtain those basic rights. In order to eliminate war, we must eliminate this cause; this is the most urgent matter before us.

"The world is one family," he told the gathering. "And I believe it is very important to enhance the idea of service. I think each person living on this planet has to serve the world."

demographer's page

The author of this month's Demographer's Page is Gordon F. De Jong, Professor of Sociology and Associate Director of the Population Issues Research Center at Pennsylvania State University. The data on which this report is based were collected pursuant to Contract NIH-NICHD-72-2743 with the National Institute of Child Health and Human Development, and Pennsylvania's Title V Rural Development funds.

Nonmetropolitan Area Migrants: Preference and Satisfaction

by Gordon F. De Jong

It is now common knowledge that for perhaps the first time in this century more Americans are moving away from than to metropolitan areas.[1] While this "nonmetropolitan turnaround" has been confirmed by census estimates and survey data, we are only beginning to uncover the dynamics of this migration pattern, including the residential preferences of nonmetropolitan migrants and their satisfaction in the new environment.

This brief report is from a study which was designed to follow a group of people over time to provide information about actual nonmetropolitan area migration behavior. Information was collected about factors related to migration decisions, residential preferences, and satisfactions. The initial survey of nearly 1,100 respondents conducted in 1974 was a multistage area probability sample designed to be representative of the noninstitutional population 18 years of age and over in Pennsylvania. Followup surveys were conducted in 1975 and 1977, at which times we were able to determine mover status for nearly 96 percent of eligible respondents. For this analysis our data are for migrants who move from urbanized-to-nonurbanized areas and comparative group of migrants who move from nonurbanized-to-urbanized areas. (The U.S. Bureau of the Census defines an urbanized area as a central city with at least 50,000 people and the surrounding closely settled incorporated and unincorporated suburban territory.)

Our initial survey of Pennsylvania households indicated that 75 percent of the respondents preferred to live in a small city, a village, or the countryside, although only about 40 percent of the state's population actually lived in these small-sized places in 1970. However, only 18 percent wanted these smaller-sized places to be more than 50 miles from a large city. What emerges is a size of place preference indicating the desire for the best of both rural and urban environments—a home in the countryside that is within proximity of a metropolitan center.

Following the survey respondents over the three-year period, we found that less than 10 percent of all central city and suburban residents who expressed a preference for smaller-sized communities actually attained their preference through migration. Many more people preferred small-sized places than were able to move there. Households that actually moved from urbanized to nonurbanized areas were most likely to consist of a married couple with children. The heads of these households were better educated, more likely to be in white collar occupations, and had higher incomes than household heads who moved from nonurbanized to urbanized areas or residents of nonurbanized areas in general. These migrants clearly contribute to the human capital of rural areas, but their past urban experiences and their social and economic characteristics also suggest a somewhat different lifestyle than that of the rural residents they join.

Table 1

Preference Attributes Ranked by Importance for Households Moving to Nonurbanized Places, Households Moving to Urbanized Places, and Residents of Nonurbanized Places in 1974

	Rank given[a]		
Preference attributes	Urbanized to nonurbanized movers	Nonurbanized to urbanized movers	Residents of nonurbanized places 1974
New house			
Cost of living	1	2	1
New neighborhood			
Healthiness of environment	2	7	4
Safeness of streets	3	[b]	7
Quality of schools	4	4	6
Quality of local services	6	10	3
Local property taxes	[b]	[b]	5
Peace and quiet	[b]	9	9
New location			
Convenience to medical facilities	5	[b]	2
New work situation			
Fringe benefits	7	1	10
Earnings	8	3	[b]
Job security	9	8	8
Overall work situation	10	6	[b]
Opportunities for advancement	[b]	5	[b]
Weighted *N*	32	37	859

[a]The 10 most frequently mentioned preference attributes: 1 equal to the most frequently mentioned, 2 the next most frequently mentioned, etc.
[b]Not among the 10 most important preference attributes for this group.

Table 2

Satisfactions with a New Residential Location Compared to a Previous Location for Urbanized to Nonurbanized and Nonurbanized to Urbanized Area Movers

Aspect of residential location	More satisfaction	Same degree of satisfaction	Less satisfaction	Subtotal %	(N)	Number of Don't know & No responses	Total *N* of cases
1. *Comparative satisfaction with home*							
Urbanized to nonurbanized	75%	25%	—	100%	(24)	8	32
Nonurbanized to urbanized	74	12	14%	100	(35)	2	37
2. *Comparative satisfaction with neighborhood*							
Urbanized to nonurbanized	67	21	12	100	(24)	8	32
Nonurbanized to urbanized	73	9	18	100	(33)	4	37
3. *Comparative satisfaction with recreational and cultural facilities*							
Urbanized to nonurbanized	50	32	18	100	(22)	10	32
Nonurbanized to urbanized	36	65	9	100	(33)	4	37
4. *Comparative satisfaction with convenience of location*							
Urbanized to nonurbanized	54	25	21	100	(24)	8	32
Nonurbanized to urbanized	52	24	24	100	(33)	4	37
5. *Comparative satisfaction with work situation of household head*							
Urbanized to nonurbanized	32	47	21	100	(19)	13	32
Nonurbanized to urbanized	46	50	4	100	(24)	13	37
6. *Comparative satisfaction with the quality of local services*							
Urbanized to nonurbanized	36	24	40	100	(25)	7	32
Nonurbanized to urbanized	50	43	7	100	(28)	9	37

Satisfaction with New Location

Given these residential preferences, how satisfied are urbanized-to-nonurbanized area migrants with aspects of their new residential location? Satisfaction is important not only because it is a significant human trait but also because migration theory suggests that dissatisfied people are likely to move again. In this context we asked respondents about their degree of satisfaction with several aspects of their new residential location *compared to their previous location* and tabulated this information for urbanized-to-nonurbanized and nonurbanized-to-urbanized area migrants.

Table 2 shows that over the short period of this study, both migrant groups were able to increase their satisfaction on several preference dimensions. For urbanized-to-nonurbanized area migrants, 75 percent indicated they were more satisfied with their new home, 67 percent were more satisfied with their new neighborhood, 54 percent were more satisfied with the convenience of the new location to people or places frequented by household members, and 50 percent were more satisfied with the recreational and cultural facilities of the new area compared with their former place of residence.

On the other hand, the move to a nonurbanized location did little to increase satisfaction with the work situation of the household head. Even more inportant is the lack of increased satisfaction with local services. Compared to their previous neighborhood, 36 percent of the urbanized-to-nonurbanized area migrants indicated that they were more satisifed, but 40 percent were less satisfied and 24 percent indicated the same degree of satisfaction with the quality of local services in their new neighborhood. This finding is potentially important for repeat migration decisions because quality of community services was ranked as one of the more important premove preference attributes. It also indicates that lower quality local services may be one of the tradeoffs facing urban residents who are considering moving to the countryside—increased satisfaction with home and neighborhood versus no change in or decreased satisfaction with the work situation and quality of local services.

The Future of Population Redistribution to Nonmetropolitan Areas

Barring the potentially crippling effect of a severe energy crisis, the medium-range prospects for continued nonmetropolitan population growth seem to be

Continued on next page

demographer's page

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favorable. *Facilitating factors* for this trend include communication and transportation advances which make it possible for people, business, and industry to interact over longer distances, the level of affluence of the population, and the rising number of older citizens with social security and private pension benefits that afford the choice of where to retire. In addition to residential preferences, some additional *conditioning factors* that will help determine rural-urban population redistribution include declining birth rates in rural areas, trends in urban unemployment, quality of life and social problems in urban areas, local community pro-growth and no-growth population measures, business and industry relocation decisions, and the natural resources of an area. For migrants and residents in both nonmetropolitan and metropolitan areas, the consequences of future population redistribution trends are many and must be planned for intelligently.

Residential Preferences

According to some writers,[2] noneconomic factors are becoming more important determinants of residential mobility, while the significance of economic factors is declining, particularly for migrants to nonmetropolitan areas. In our premove survey, respondents were asked the importance they attributed to a wide range of qualities in choosing a new place of residence. Some 47 of these residential preference qualities were evaluated, including attributes of a new home, a new neighborhood, a new work situation, and a new location in relation to people and services. Table 1 presents the 10 preference attributes ranked most important in 1974 by respondents in households that later moved to nonurbanized and to urbanized communities and by a comparison group of existing residents of nonurbanized communities.

While costs associated with owning and maintaining a new home were the top concern of urbanized-to-nonurbanized area migrants, the four next most important residential preferences focused on neighborhood characteristics, such as the quality of schools and local services. These preference attributes were also important to residents already living in nonurbanized places, although their priority rankings were slightly different. Convenience to medical facilities was ranked as the fifth most important attribute by urbanized-to-nonurbanized area migrants but was the second most frequently chosen attribute for residents of nonurbanized places. This response may be a reflection of the older age of persons in these households. Convenience to medical facilities was not among the top 10 preferences of nonurbanized-to-urbanized area migrants. Except for quality of schools, nonurbanized-to-urbanized migrants were less concerned with neighborhood characteristics.

Economic and work situation attributes were ranked as important by all three groups, but migrants to nonurbanized areas and residents already living in nonurbanized communities consistently ranked work attributes as less important than did migrants to the city. It is notable that opportunities for advancement, usually considered to be a key motivational factor in migration, was not ranked among the top 10 residential preference attributes of urbanized-to-nonurbanized migrants.

In summary, cost of living was an important attribute for everyone. Households that moved to larger cities were most concerned about work-related preferences, while migrants from urbanized-to-nonurbanized places considered neighborhood preferences to be more important than work-related attributes.

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2. Zelinsky, Wilbur, "The Hypothesis of the Mobility Transition," *Geographical Review*, 1971, *61*, 219-249.

Mexican Illegal Aliens in U.S. May be Fewer Than Thought

A three-year Mexican government study of migration has reported evidence that the number of Mexicans residing illegally in the U.S. is far less than previous estimates. The study's preliminary figures put the figure at 480,000 to 1.22 million as of the late 1970s, which contrasts sharply with U.S. estimates and educated guesses, which usually total 3-6 million illegal aliens from all places, the majority from Mexico.

Nonetheless, the new study, conducted by Mexico's Labor Ministry, was very comprehensive. It consisted of two surveys of a total of 85,000 Mexican illegals returned to Mexico by the U.S. Border Patrol, and a massive survey of 58,000 households in selected areas, covering a total of some 350,000 people.

The Mexican study found that more than half the Mexican illegal migrants came from the states of Guanajuato, Jalisco, Chihuahua, and Zacatecas. More than 50 percent go to California and 20 percent go to Texas. Seven out of eight of them are men; 71 percent are between the ages of 15 and 34.

Interestingly, the migrants have a higher educational level than the Mexican average, and three out of four already had a job in Mexico when they left. These findings suggest that the migrants, rather than being the most poor and unemployable of the Mexican population, may instead be the more able and ambitious.

These preliminary findings will probably be used to bolster Mexico's argument that there are not as many illegal migrants to the U.S. as is generally alleged, and that they tend to be temporary rather than permanent residents.

The final report will be issued in 1981.

Status of U.S. Elderly

Continued from page 1

two workers to support each retired person if there are no changes in the present pay-as-you-go system.

The two major medical programs that deal with the elderly, Medicare and Medicaid, reduce senior citizens' medical bills for hospitalization, recovery and drugs, but they are not geared to long-term care. And long-term care is the main health need of those over 75 who require sustained, nontechnical, and usually nonmedical services, says Soldo. Because of tight program restrictions, many elderly persons are forced to enter nursing homes—at a high financial cost to the government and personal detriment to their quality of life—in order to obtain the long-term care that they could not otherwise afford.

Vigorous, Fulfilled Lives

The Bulletin throws new light on the myth of the ill, abandoned oldster. Not only do most old persons prefer to remain at home and receive support services there, but in the vast majority of cases, families look after their elderly without help from community. Older couples try to maintain their own households intact for as long as possible. Seniors who are slightly or even moderately handicapped are likely to stay in their own homes, often alone, and receive help with transportation, meals, shopping, and cleaning from nearby adult children. For the elderly in good health, frequent visits, letters or phone calls from adult children are the rule rather than the exception, Soldo reports. Only the very old or extremely impaired are likely to move in with their offspring. When they do, the lack of support services and financial aid for the caregiver often cause an excessive burden for the family and sometimes results in the unnecessary, and reluctant, institutionalization of the old person.

Yet with the help of family, friends, neighbors, and volunteer groups, many seniors are continuing to live vigorous, fulfilled lives, and are finding that they have a growing number of peers, says Soldo. Each day the ranks of senior citizenship grow by 1,600 persons. People 65 and over, particularly those 75 and over, are the fastest growing group in the U.S. society.

U.S. life expectancy is now 77 years for women and 69 for men. While only 14 percent of the noninstitutionalized elderly can claim to be free of chronic illnesses such as arthritis, high blood pressure, heart problems, or diabetes, most senior citizens say these conditions don't really limit their activities. Only about 5 percent are housebound and slightly over 1 percent are bedridden. And contrary to widespread belief, only about 5 percent of all elderly are to be found in nursing homes or hospitals at any point in time, reports Soldo.

"The mental health of elderly Americans is far better than depicted by popular stereotypes," she adds. Over half of the persons over 60 interviewed in a recent national survey stated that they were "highly optimistic." The survey found that happiness for the elderly, as for younger people, is linked to good health, economic security, and a satisfying relationship with an equally healthy spouse.

Status of Elderly Women

Twenty percent of those surveyed, however, could be viewed as "casualties," crushed by the difficulties of old age. This group consisted mostly of women, who are more likely to be widowed, live alone, and have less income (and fewer assets) than older men.

Many of these women are part of the one-quarter of the elderly who fall near or below the official poverty level. Elderly persons who rely solely on Social Security benefits usually have the lowest incomes of all elderly. Current proposals are now focused on targeting available resources and community services to those most in need, and several plans are pending to eliminate some of the inequities (particularly to older women) now found in the Social Security system. Pressures are mounting to change the rule that says a working woman who opts for one-half of her husband's Social Security entitlement loses all the contributions she herself has made through the payroll deduction system. Also being discussed is the elimination of the requirement that any person who is divorced before he or she reaches 10 years of marriage loses any claim to a spouse or survivor's retirement benefit.

Geographically, elderly persons are more heavily concentrated in the Northeast and North Central regions than in the South and West. But in some states, like Nevada, Arizona, Florida, Hawaii, and New Mexico, the proportion of older Americans is increasing rapidly because many younger, more affluent retirees move there to take advantage of good climate and recreational facilities.

In general, however, moving during the retirement years is the exception rather than the rule, Soldo observes. In the U.S. there is a tendency to "age in place," sometimes causing "gray ghettos" to appear in older sections of many cities, and an over-concentration of older persons in small rural towns.

Diverse as they are in needs, lifestyle, and opinion, America's 25 million persons aged 65 or older are now a significant social group and are destined to become an even more formidable political force as their numbers grow to 32 million in 2000 and 45 million in 2020. The 1981 White House Conference on Aging represents the major thrust of current efforts to understand this group and improve the public's response to its concerns. The conference will provide a forum for some 1,800 delegates to express their own needs and provide a focal point for policymakers interested in untangling some of the bureaucratic problems that now hold back progress in America's coming to grips with its aging population.

Beth J. Soldo is Senior Research Scholar at the Center for Population Research of Georgetown University, Washington, D.C., and has conducted research on the elderly ranging from their living arrangements to aspects of long-term health care. Among her numerous publications is the recent monograph, *Improving the Elderly's Housing: A Key to Preserving the Nation's Housing* (with Raymond J. Struyk) and the forthcoming *Demographics of the Aged.*

Single copies of Soldo's 47-page *Population Bulletin* (Vol. 35, No. 4), "America's Elderly in the 1980s," are available at $2.00 from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013; 2-49 copies are $1.75 each; 50 copies or more, $1.50 each. Also available are eighteen 35 mm colored slides of the *Bulletin's* figures and tables at $9.00 per set.

Santa's Making His List, He's Checking It Twice...

by Arthur Haupt

How *does* Santa Claus do it?

One man...one sleigh...a nearly infinite number of chimneys—the logistics of delivering presents all over the world in a single night seem almost insurmountable. It's enough to shake one's faith.

And yet, when analyzed demographically, Santa's long delivery trip can be seen in a more realistic light. It is indeed possible for Santa to do it all, as sure as there are elves at the North Pole....

In the first place, the majority of the world does not celebrate Christmas. For the Chinese and Japanese, New Year's Day is the annual festival when presents are exchanged. In India, gifts are given in celebration of Deepawali, in late October. In the Moslem world, the major festive holidays come at the end of Ramadan in July or August, and the Feast of Sacrifice two months later.

In the second place, Christmas is not an all-out holiday in many Christian societies. In most Catholic countries (as in Latin America and the Iberian peninsula), the major festive holiday is Epiphany (Three Kings Day) on Jan. 6. On Epiphany, the three Magi, Caspar, Melchior, and Balthasar, leave gifts for children on their way to Bethlehem. In the USSR and other countries of the Eastern Church, Easter, not Christmas, is the major religious holiday. In addition, in the USSR gifts are brought on New Year's Eve by a quasi-secular Grandfather Frost.

Finally, because Santa Claus makes his deliveries across 24 time zones, he can move west with the clock. He can make Christmas Eve night last for 24 hours, more than enough time to fulfill his task.

So at 1200 Greenwich Mean Time this Christmas Eve, it will be 12 midnight in Oceania, as Christmas Day begins and Santa and his reindeer start their run. Australia and New Zealand are a snap. With about 6 million households to visit and three hours to visit them in, Santa can get warmed up by covering only 556 households a second. No problem.

Things get more hectic, however, after he crosses the Indian Ocean. Except for Spain and Portugal, Europe's stockings are hung by the chimney with care (though in Italy, deliveries are made by Befana, an old woman who rides a broom). And Christian Africa—about two-fifths of the continent's population—also celebrates Christmas in a big way. Covering these two continents at once, Santa and his reindeer have about five hours to visit some 173 million households—hitting some 9611 chimneys every second. Work, work, work.

Once Europe and Africa are done, the old gentleman has a leisurely trip west over the Atlantic, with time to relax over a bag of cookies and a much-appreciated thermos of hot buttered rum. Then it is time to do North America's 86 million households over about six hours, or 3981 chimney trips a second.

In the U.S., Santa's job is more difficult than it used to be. While the U.S. population has grown about 10 percent from 1970 to 1980, the number of households has grown at a much greater rate—from 63 million to an estimated 78 million. Household size has meanwhile shrunk from 3.2 people to 2.8 people; this means, among other things, that Santa must slide down 24 percent more chimneys to reach the same number of people as 10 years ago.

By the time Santa reaches Hawaii, the time is about 1100 GMT Christmas Day, and he is one tired Mr. Claus.

He has delivered presents to something like 277 million children 12 years old and under—about one-quarter of the world's children in that age group. His sled weighed some 70,000 tons at takeoff (assuming each present weighed eight ounces); now it is empty. All those presents probably cost some $550 million (assuming that, thanks to the economies of scale, they cost $2 each).

He has put in a lot of work, and shimmied down a lot of chimneys. It is time to go home to Mrs. Claus and take a long, hot bath.

Many questions abound about this benevolent North Pole denizen. An engineer would ask: What makes that sleigh go? A Washington reporter would ask: How can he afford all those presents?

But the question any demographer would perish to find the answer to is: Where does Santa Claus get his marvelous master address lists?

positions/professionals

Evaluation Specialist, Regional Family Planning Training Project for Latin America and the Caribbean, to assess effectiveness of family planning training programs for clinical and nonclinical personnel. Responsible for preparing and coordinating program evaluation activities, instituting impact evaluations of the multiplier effect of training-of-trainer programs, conducting comparative evaluations of clinical and nonclinical programs, and providing technical assistance to family planning training programs. *Qualifications*: College graduate with extensive experience in training evaluation procedures in health/family planning field. Must have field experience in Latin America and be available for international travel. Fluent Spanish is essential, and Portuguese and French are desirable. *Salary:* Dependent on skills and experience. *Contact:* Edward S. Dennison, Project Director, Development Associates, Inc., 2924 Columbia Pike, Arlington, Va. 22204.

Materials Development Specialist, Regional Family Planning Training Project for Latin America and the Caribbean, to provide technical assistance in the design, development, and evaluation of training materials for clinical and nonclinical family planning programs. Responsible for assessing the training materials needs of these programs and for supervising the collection and distribution of training materials through a regional resource center in Bogota, Colombia. *Qualifications:* College Degree, MPH, CNM, or RN preferred, and experience in training-of-trainers for health/family planning programs. Must have field experience in Latin America and be available for international travel. Fluent Spanish is essential and Portuguese and French are desirable. *Salary:* Dependent on skills and experience. *Contact:* Edward S. Dennison, Project Director, Development Associates, Inc., 2924 Columbia Pike, Arlington, Va. 22204.

Technician in Demography, Mississippi State University, to work on estimates and projections of population and development of methodology. *Qualifications:* minimum of two years formal training beyond high school, but prefer Master's degree in statistics, demography, or related area. Computer programming and ability to handle large data files required. *Salary:* $13,000. *Contact:* Dept. of Sociology, PO Drawer C, Mississippi State University, (an equal opportunity employer), Mississippi State, Miss. 39762.

Architecture for the Solar Age

The potential for a drastic reduction in the amount of energy used by the world's buildings is documented in the latest *Worldwatch Paper* from the Worldwatch Institute. Christopher Flavin, author of the study "Energy and Architecture: The Solar and Conservation Potential" reports that we can expect to cut energy consumption in buildings by 25 percent by the end of the century if adaptations are made in existing buildings and new buildings are constructed with an eye to energy conservation. A concentrated effort in the U.S. could save the nation the equivalent of five million barrels of oil a day—considerably more than will be produced by the national synthetic fuels program.

"Until recently, little heed was paid to the energy efficiency or lifetime fuel costs of buildings as they went up," Flavin notes. "During the sixties and early seventies, energy use in this sector increased at a five percent annual rate. As a result, the heating, cooling, and lighting of buildings now consumes nearly one-quarter of global energy supplies. Today, the world's cities are full of structures that will simply be too expensive to use in 20 years' time."

"The overdependence of residences and office buildings on fossil fuels need not continue," says Flavin. "A small but growing number of well-designed climate-sensitive buildings that depend on the sun's energy directly to heat their interiors and that rely on natural breezes for cooling use at least 75 percent less fuel than conventional buildings do. Good insulation and windows that face the equator are the basic features of such structures. Climate-sensitive houses have been constructed without furnaces in Scandinavia. In the warm American Southwest, recently developed buildings have no need for air conditioning. Annual fuel bills of less than $100 are not uncommon in such homes. As understanding of energy-saving materials and the thermodynamics of buildings increases, even large commercial structures will soon be designed to use less than half as much fuel as they do today.

Simple economics suggests that there is potential for spectacular growth in the field, Flavin notes. A well-designed solar or low-energy building almost always has a lower life-cycle cost than a conventional one does, and much of the savings comes at little or no extra expense. A south-facing window costs no more to install than one that faces north, for instance, and a concrete floor that can store heat is cost-competitive with a wooden one. Even major conservation investments in existing buildings—such as storm windows, insulation, weather stripping—can be a cost-effective way to cut fuel bills, with a payback period of only a few years.

Flavin stressed that the government must be an active partner in any energy conservation program. "Innovative government programs in league with the best efforts of private industry will be needed to counter the momentum of past practices and to introduce climate-sensitive design to the mass market. The U.S. Government alone has spent hundreds of billions of dollars subsidizing the development of conventional forms of energy. It is time for solar and conservation technologies to be given more equitable financial support. In the short run, the most important government programs will be those that encourage efficiency improvements in existing buildings. Since 80 percent of the buildings in use today will still be around in the year 2000, it is essential that they be improved in response to the altered world energy situation."

Other essential government policies for the eighties are energy standards for new buildings, technical outreach programs, and the use of financial incentives.

Several countries have already begun such efforts. Sweden has the world's strictest building standards, design competitions have been held in France, and the United States has recently established tax credits and a Solar Energy and Conservation Bank that will encourage energy-efficient architecture. Serious consideration might also be given to requiring the labeling of the fuel requirements of buildings at the time they are sold.

"The potential clearly exists to cure most of the energy ills of the world's buildings by the end of the century," according to Flavin. "Economically and ethically, the decision to begin moving down that path should be one of the easiest energy choices we have to make. Improvements in the building sector would constitute a major—yet relatively inexpensive—step towards a sustainable world energy economy based on renewable resources.

Copies of *Worldwatch Paper 40* "Energy and Architecture: The Solar and Conservation Potential" are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

grants/contracts

- University of North Carolina, Chapel Hill, School of Arts and Sciences: *How Female Education Reduces Fertility (Latin American Surveys)*, J.D. Kasarda, investigator. This project is part of a broader program administered by the Carolina Population Center. The proposal requests a continuation of research services support in four areas: research development and coordination, publication services, library and reference services,and demographic and technical support. (Funded by NICHD.)

- U.S. Dept. of Health & Human Services, Public Health Service; National Institute of Health, National Cancer Institute, Bethesda, Md: *Reproduction in Cancer Patients*, J.J. Mulvihill, Clinical Epidemiology Branch, principal investigator. The study proposes to evaluate fertility and reproductive history in cancer patients, especially in long-term survivors of childhood cancer, in men and women who reproduced during cancer therapy, and to discover hereditary patterns of cancer. Study techniques include interviews of surviving patients, recall of former U.S. National Cancer Institute patients for detailed examinations of offspring, and case collection through correspondence with physicians in cooperative clinical trial groups.

- University of Hawaii System, Manoa Campus, School of Arts and Sciences: *Collaborative Research on the Development of the Soviet Unified Settlement System*, R.J. Fuchs, investigator. The proposed research focuses on the identification of the goals associated with the Soviet planned, integrated settlement systems; identification and analysis of the major strategies and policies employed to achieve the normative goals; and evaluation of the effectiveness of these strategies and policies, particularly in the period 1970 to 1979. The results of the study should significantly increase understanding of the capability of the USSR to manage urban processes. The evaluation of individual urban policies will be useful to planners in developed and developing countries attempting regulation of settlement systems. (Funding from National Science Foundation, FY 1980 $36,102.)

wfs update

Carl Haub, PRB Staff Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 61 countries, will appear in INTERCOM as results become available.

Copies of the WFS Country Reports may be obtained from the World Fertility Survey, 428 Prinses Beatrixaan, 2770 AZ Voorburg, Netherlands.

Turkey

Turkey has recently reported the results of the 1978 Turkish Fertility Survey. Although Turkey has just passed through an era of rapid population growth, there is some evidence that the country is in the early stages of a declining rate of growth and has measurably entered into the "demographic transition." In 1950, the national census (Turkey takes a census every five years) counted a population of about 21 million; by 1975 the population had approximately doubled and in mid-1980 stood at about 45.5 million. If fertility declines from its current level of 4.5-5.0 children per woman to about 3 children per woman in 2000, Turkey's population would then be about 70 million. Thus, even with a gradual decline in fertility, Turkey, along with most other developing countries, still has substantial population growth ahead. The official government policy has changed since 1965 from pronatalism to recognition of the problems caused by high population growth rates. The government also encourages the emigration of Turkish workers abroad in order to ease pressures on unemployment. About 1.5 million Turks work abroad, the vast majority in West Germany.

Turkey's population is almost 100 percent Sunni Moslem and nearly two-thirds of the labor force is engaged in agriculture. The Western region contains two of the largest metropolitan areas (Istanbul in Europe and Izmir on the Asian portion) and is the most densely settled. The Eastern region and the Southeastern Anatolia are the least economically developed areas. Ankara, the capital, is located in Central Anatolia, a cereal-producing region, while the mountainous Black Sea region specializes in more labor-intensive crops. To the south, the Mediterranean region contains rich agricultural plains as well as fast-growing industrial centers. In average years, Turkey is self-sufficient in food production.

The Turkish Fertility Survey interviewed 4,431 ever-married women below age 50 and the results suggest slowly declining fertility and, notably, a high level of unwanted fertility.

Although most Turkish women marry at an early age, there is some evidence of a decline in very early marriage. Of the women over age 30, 15-20 percent had married before age 15, but this figure is only about 4 percent for those aged 15-19 at the time of the survey. Still, for women marrying before age 25, the mean age at marriage is quite low: 17.7 years. Marriages are very stable with over 97 percent of women married in the 10 years prior to the survey still in their first union.

From retrospective data on birth histories of the survey respondents, the total fertility rate can be estimated to have declined by about 25 percent during the 1970s. For the periods 1970-1972, 1973-1975, and 1976-1978, the estimated total fertility rate was 5.8, 5.1, and 4.3, repectively. Rates for the earlier two periods are in general agreement with adjusted rates derived from the Turkish Demographic Surveys conducted in 1966-1967 and 1974-1975. Data collected on children ever born in the 1978 survey support the contention that the total fertility rate was over 6 children per woman prior to 1970 since women aged 45-49 reported 6.3 children ever born during their lifetimes. This estimate is not entirely consistent with similar data from the 1975 Census, which reported about 5.5 children ever born for women 45-49 at that time. The higher estimate from the Turkish Fertility Survey may result from improved recall due to more intensive interviewing techniques.

The survey also produced an estimate of infant mortality, based on child survivorship data. For 1972-1977, the rate was estimated to be 134 infant deaths per 1,000 live births, an unusually high one for a semi-industrialized country.

Eighty-eight percent of the ever-married women surveyed had heard of some method of contraception and virtually all of these had heard of a modern method. But only 55 percent reported ever having used any method. This percentage is higher among intermediate-aged women, with about three-fourths of those aged 25-34 with 2 or 3 living children reporting use. Use of a modern effective method is considerably lower than that of the more traditional "folk" methods, however. Of the women who were exposed to the risk of pregnancy at the time of the survey (i.e., currently married, nonpregnant, and fecund), half were contracepting, but only 18 percent were using a modern method. The sharp decline in the total fertility rate during the 1970s is somewhat surprising, since use of modern contraceptive methods is not widespread and data from this and previous surveys do not suggest much of an increase in contraception generally.

The potential for further reduction in fertility is strongly suggested by the survey since the respondents reported that more than one in three of their most recent births was unwanted. Half of the women who had 2 living children said that they did not wish to have another birth. For the total sample, 3 children was given as the total number desired and this varied surprisingly little by age. The survey notes that "a vast majority of the women with more than three living children state their desired number to substantially below their actual number. . . ."

world food news

Aquaculture Progresses

An acre of water can produce as much or more food than an acre of land. Unfortunately, the application of modern science to aquaculture has lagged far behind its application to agriculture and animal husbandry. Some of the reasons may be traced to historical patterns: It is possible the ease of storage and transport of plant staples, and the fact that livestock moves on its own, made them more attractive to early shifting cultivators than fish, which are not easily carried alive or prepared for long storage.

Today, aquaculture is practiced in one form or another in many parts of the world. In Japan, yellow-tails are grown in net cages suspended in coastal water. In the Inland Sea, shrimps are raised in hatcheries and later released into salt water pens. The fjords of Norway are used as pasture for trout. Catfish farming has assumed boom proportions in parts of the U.S. In Hungary, fish and duck are cultivated in the same pond, the ducks fertilizing the water for the fish. In Italy fish farms selling trout and other aquatic delicacies are sprouting throughout the countryside.

Shortly after the establishment of the FAO in 1945, its Fisheries Division became aware of aquaculture's potential, identified existing expertise—mostly in Asia—and started spreading it over the rest of the world.

Aquaculture, which includes the farming of fish, shellfish, shrimp, seaweed, and potentially a variety of other organisms that make their home in water, has in the last 40 years been growing in two somewhat different directions. The first is towards intensification, often as a commercial enterprise, using ponds, cages, or raceways and special enriched feeds often accompanied by a high level of mechanization. The second is towards integration with other activities for a more efficient use of available resources. Integrated farming, such as rice-and-fish culture, raising upland crops on rich pond bottoms in rotation with fish, which may also be commercially attractive, is of wider interest as a means of improving the productivity of small farms.

In traditional pond culture, and in the so-called extensive aquaculture carried out in reservoirs and lakes, fish are fed on the food produced within the water body, much as cattle are fed on pasture or on range. In modern intensive aquaculture, where more efficient use of space is the important objective, supplementary feed is necessary. In intensive aquaculture, feed is usually the most expensive input. To increase the food produced in the pond, and reduce the amount of supplementary food required, fertilizers are added. In many places manure from chickens, ducks, or pigs is used. Another way of increasing production without excessive inputs is by growing several species together in the same pond, each species utilizing a different portion of the food available in the pond.

Demand for protein foods after World War II accelerated the development of modern methods to locate and catch fish. The global catch went from less than 20 million metric tons in 1948 to 70.7 million metric tons by 1970.

However, the increase in production has since slowed down. FAO estimates that existing stocks and improved methods could eventually yield up to 100 million tons a year.

The amount of the world's surface suitable for aquaculture is considerable and only 10 percent of the 30 to 40 million hectares of land and water suitable for aquaculture in the world is believed to be currently in use.

"And water," says Dr. T.V.R. Pillay, a fish culturist from India who heads the FAO/UNDP Aquaculture Development and Coordination Program, "is an excellent medium for cultivating food. An acre of good pasture land can be used to raise a few hundred pounds of beef cattle a year. The equivalent area in water can yield two tons or more of fish and a hundred tons of shellfish."

Thus there is considerable scope for aquaculture as a vital supplementary source of fish, especially in land-locked countries with no fishery resources of their own.

And the oceans themselves hold some promise for aquaculture. Experiments have already been made on fish ranching, by which fish are turned loose in coastal waters to return in a herd at feeding time like cattle on the range. Further achievements can be expected as biologists and technologists combine their efforts to produce new and better varieties of domesticated food fish.

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

Vital Statistics Update

The crude birth rate (number of births per 1,000 population) in the United States again remained at 16.0 for the most recent 12 month period reported, August 1980. During the first eight months of 1980, there were 3 percent more births than there were for the same period in 1979, 2,357,000 compared to 2,282,000. Although the death rate increased slightly in 1980, natural increase was nonetheless higher in 1980: 1,026,000 persons were added to the population in the first eight months of 1980, contrasting with 1,007,000 in 1979. Although both the crude birth rate and the fertility rate (births per 1,000 women aged 15-44) have been increasing slowly in recent years, available evidence indicates that this results from at least some "delayed childbearing" and that the lower rates of the mid 1970s resulted from younger women postponing some births for a time.

The table below is reproduced from the National Center for Health Statistics *Monthly Vital Statistics* Report for August 1980.

Provisional U.S. Vital Statistics: August 1980

	12 months ending with August					
	Number		Rate			
Item	1980	1979	1980	1979	1978	1977
Live births	3,547,000	3,408,000	16.0	15.5	15.2	15.3
Deaths	1,963,000	1,896,000	8.9	8.6	8.9	8.8
Natural increase	1,584,000	1,512,000	7.1	6.9	6.3	6.5
Marriages	2,395,000	2,329,000	10.8	10.6	10.1	10.1
Divorces	1,173,000	1,157,000	5.3	5.3	5.1	5.0
Infant deaths	45,500	44,800	12.8	13.1	13.7	14.4
Population base (in millions)	...	...	221.5	219.3	217.5	215.8

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Av., NW, Washington, DC 20036.

FERTILITY CONTROL: Biologic and Behavioral Aspects, edited by Rochelle Shain and Carl J. Pauerstein. Hagerstown, Md.: Harper & Row, 1980. 443 pp. $35.00. ISBN 0-06-142376-9. LC 80-10120.

This textbook develops a novel multidisciplinary approach to the education of population researchers and workers in related fields. It addresses a wide audience—students of medicine, public health, sociology, medical and population anthropology, as well as population scientists and the administrative and medical staff of family planning programs. The text covers in detail three areas of fertiltiy control—clinical medicine, social scientific, aspects, and laboratory research methods. It begins with a study of reproductive biology as the basis for illustrating contraceptive methods. The administration, evaluation, costs and benefits, support and opposition to different family planning programs are covered at length. Likewise, the demography of fertility is described in detail, including discussions of basic population models and case studies, the demographic transition, demographic trends and techniques, and population policies and projections. A section on anthropological and sociological perspectives questions traditional interpretations of the demographic transition; describes the relation between culture, social structure, and fertility; and addresses the question of cultural acceptability of fertility control programs. A final section outlines social science methodology, noting the statistical concepts and techniques useful for hypothesis testing in fertility and family planning research. —*Mary Ammirati*

THE NEXT 70 YEARS: Population, Food and Resources, by Bernard Gilland. Tunbridge Wells, England: Abacus Press, 1979. 133 pp. $19.95. ISBN 0-85626-176-9.

This book studies world demographic patterns and projections, global nutritional requirements, and the agricultural potential of the earth to determine the capability of the earth's population to feed itself in the next 70 years. Two aspects of the food-population problem are examined: the possibility of eliminating the differences in dietary patterns of more developed and less-developed countries, and the ability of LDCs to maintain a rate of food production equal to their rate of population growth. While the population of more developed countries will rise by 50 percent before stabilization occurs (around the year 2050, according to the author), the populations of LDCs are expected to increase by 250 to 400 percent. Increasing the food production in more developed countries to keep pace with their population growth will be relatively easy, states the author, but he questions whether food production in the LDCs can be increased as readily. His conclusion: Although it is technologically possible to eliminate the discrepancies in global diet due to political and economic hindrances this will not occur until well beyond 2050. Tables and charts are included to support the findings. —*Ruth Glaser*

MORALITY AND POPULATION POLICY, by Michael D. Bayles. University, Ala.: University of Alabama Press, 1980. 143 pp. $13.50; $7.50 paper. ISBN 0-8173-0033-3; 0-8173-0032-5 paper. LC 79-23965.

This philosophically oriented book attempts to develop moral theory for population problems, and to apply this theory in formulating an acceptable set of general population policies. From the moderate assumption that rapid population growth threatens the quality of life, but not the survival, of humanity, the author evaluates the extent of our responsibility to ensure that quality of life, both for future generations and through foreign assistance. The values of freedom, security, welfare, and equality are used to evaluate national population policies, international assistance, and international migration policies. Volatile issues, such as compulsory family limitation policies, the potentially exploitive assistance to less developed countries contingent upon their initiation of population limitation programs, and balancing the adverse impact of strict immigration policies on potential immigrants with considerations of the quality of life of present and future generations are grappled with in a systematic fashion. The author concludes his discussions with often suprisingly strong policy recommendations, and is emphatic that all countries should have a population policy. The incorporation of accurate demographic facts contribute to the quality of the text, though some of the policies recommended are not so unbiased as the author, through his logical methodology, would have us believe. —*Laura Lippman*

POPULATION REDISTRIBUTION IN THE USSR: ITS IMPACT ON SOCIETY, 1897-1977, by Robert A. Lewis and Richard H. Rowland. New York: Praeger Publishers, 1979. 485 pp., $34.95. ISBN 0-03-050641-7. LC 79-18076.

This detailed study of population distribution in the USSR is the second of a three-volume series on Soviet demographics, following *Nationality and Population Change in Russia and the USSR*, by the same authors with Ralph S. Clem. The authors spent a decade reordering data from the five successive Russian censuses, from 1897 through 1970, to overcome serious territorial and definitional problems inherent in Soviet census data. In this study, the authors conclude that much of the internal migration in the USSR results from forces similar to the "push" and "pull" factors found in other countries. The general belief that population movement results from government controls is generally incorrect, although there definitely have been policies and administrative measures designed to influence population distribution. In the past, such agencies as the Organized Labor Recruiting Service (ORGANABOR) relocated millions of predominately unskilled workers, and programs exist today whereby graduates of vocational schools are obliged to three years service in remote places such as Siberia to repay the state for their education. The *propiska* system (permission for permanent residence) has apparently kept the populations of some cities such as Moscow, Kiev, and Leningrad smaller than they might otherwise have been, but the authors estimate that about 15 million persons annually move within the USSR today and a very large effort would be required to control such movements. The partial failure of the government to enforce a uniform migration policy is seen in the continued loss of population from labor-deficit areas to labor-surplus areas. This new book is an excellent contribution to its subject matter, both in the historical context and for the present time. —*Carl Haub*

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226,504,825

Rush to the Sunbelt, 4.8 Million Mystery People Highlight 1980 Census Totals

At least temporarily freed from its various legal entanglements by the Supreme Court, the U.S. Census Bureau officially presented its 1980 Census totals to President Carter on Dec. 31, 1980, the deadline day.

The grand total of the national resident population was 226,504,825. This figure is as of April 1, 1980, when the census was conducted. It represents an 11.4 percent increase from the 1970 Census population count of 203,302,031.

The South and West now contain 119 million people as these two regions, taken together, have now surpassed the North and North Central states (with 108 million people.) Two states—New York and Rhode Island—and the District of Columbia actually lost population during the decade. By far the biggest population loser was New York, which lost 684,000, or one out of every 25 New Yorkers, a loss which mainly occurred in New York City. (The New York census figures are being contested in court by the state and city.)

The biggest population gainers were California, which picked up some 3.7 million residents, followed by Texas and Florida. The biggest gainers by percentage were Nevada (63 percent) and Arizona (53 percent,) though both of these gains were made on relatively small state populations.

The census figures show the South and West have grown during the decade just past by 21.4 percent, while the North and North Central regions grew by only 2.1 percent.

This shift toward the sun, while greater than expected, was at least expected. The biggest surprise of the 1980 Census is rather its total, which is some 4.8 million greater than the Census Bureau's estimates for April 1, 1980. For a census to "find" a new, unexpected 2 percent of the national population is unusual. Bureau Director Vincent P. Barabba attributes the higher-than-expected count to the cooperation of minority groups. "Taken together," he asserted, "these figures indicate a tiny, or nonexistent measured undercount." And he affirmed the Bureau's determination not to adjust the

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PRB's New U.S. Data Sheet

Within a month of their Dec. 31st release to President Carter, U.S. Census Bureau official 1980 population counts will highlight a unique new data sheet now being prepared by the Population Reference Bureau.

Ready by the end of January 1981, the *1980 United States Population Data Sheet* contains a heretofore unavailable collection of statistics for the nation as a whole and each of the four regions, nine divisions, 50 states, and the District of Columbia. Included besides the just released population totals as of Census Day, April 1, 1980, are comparisons with 1970 population counts, projections of population in 1990, the latest birth, death, and infant mortality rates, migration during the 1970's per capita income, racial composition, population density, population percentages of the elderly, high school graduates, persons living in metropolitan areas and those below the official poverty line, plus other information.

Modeled after PRB's noted annual World Population Data Sheet, the *1980 U.S. Population Data Sheet* is an easy-to-use, three color (red, white, and blue) wall chart, 18½ × 24 inches in size.

PRB is receiving orders for shipping upon delivery from the printer. Single copies are $1.00; 2-49 copies, 75¢ each; and 50 copies or more, 50¢ each. Send orders with check to PRB's Circulation Dept., P.O. Box 35012, Washington, D.C. 20013.

Contraceptives Ward Off TSS?

Use of any kind of contraception seems to lessen risk of contracting toxic-shock syndrome, researchers have found. No single method is totally responsible for this effect; however, the most striking trend was associated with use of oral contraceptives.

This result is based on statistical analysis of 38 white female patients suffering from TSS. The researchers, Jeffrey P. Davis et al. of the State of Wisconsin's Division of Health, found no link between the disease and frequency of sexual intercourse, intercourse during menstrual periods, exercise, or previous vaginal infections. But the patients' use of contraceptives was significantly lower than that of the control population.

Why contraceptives should have this apparent effect is impossible to say. Writing in the New England Journal of Medicine, Davis suggests that one possiblity could be that the lower doses of estrogens in oral contraceptives, which reduce the intensity and duration of menstrual flow, might indirectly alter the vaginal environment in a protective way.

TSS is a relatively rare disease believed to be caused by a new strain of staphylococcus bacteria. It has been in the news because of its acute severity (some 8 percent of patients die), because it is most common with women under 30, and because use of tampons (which are used by 70 percent of U.S. women) have been implicated as a cause, though the exact link between tampons and the disease remains unknown. Men have also contracted the disease.

Some 66 people have died from TSS, but it is still comparatively rare, with an incidence rate of under 1 per 20,000 menstruating women.

Population Growth Blocks Progress of World's 'Absolute' Poor

With slower economic growth now predicted for the 1980s, reducing the number of the world's absolutely poor people may take special efforts to distribute national incomes more equitably and improve the poor's access to basic health, education, and family planning services that contribute directly to slower population growth, says World Bank economist Nancy Birdsall in PRB's latest *Bulletin*.

In 1980 an estimated 780 million of the noncommunist developing world's people were living in absolute poverty, reports Birdsall in her *Bulletin*, "Population Growth and Poverty in the Developing World." World Bank projections that the number could be reduced to 600 million by the year 2000 have assumed increases in income growth that may now be negated by rising energy prices and slowed economic growth in industrialized countries, says Birdsall. That shifts the burden to other means of tackling the problem of reducing absolute poverty. Among these are renewed efforts to slow rapid population growth, she says in her *Bulletin* which focuses on "the apparent close association between poverty and rapid population growth and considers how the two are mutually reinforcing."

"Absolute poverty" is defined as having less than the income necessary to ensure a minimum daily diet of 2,150 calories per person—$200 per person annually in 1970 U.S. dollars. The proportions of the population below this cutoff line range from about half in the poorest countries of the world—India, Bangladesh, Indonesia, and many sub-Saharan African countries—to 13 percent in better-off developing countries like Brazil, Mexico, and Iran where per capita income is over $1,000, says Birdsall. While slower mortality declines, coupled with increasingly rapid fertility declines in many developing countries, are beginning to slow population growth, most developing countries have experienced a doubling of their populations in the past 30 years with growth rates averaging between 2 and 3 percent annually. The result is a population burden which "severely handicaps" their efforts to eliminate poverty, says Birdsall.

Rapid population growth "stretches family and national budgets thin with increasing numbers of children to be fed and educated and workers to be provided with jobs," she points out. Due to high fertility, developing countries typically have about 25 percent of their populations in the primary school ages (5 to 14) compared to 15 percent in developed countries, and far lower income resources to invest in education. They have also been faced with a doubling of their population of working ages (15 to 64) in the past 25 years, compared to a 45 percent increase in the United States, for example. Besides high unemployment, this has meant disproportionately youthful, inexperienced labor forces and consequently lower average productivity and slower per capita income gains.

Conversely, the low income, high infant mortality, and lack of education characteristic of the poor contribute to continued high fertility and all its disadvantages, Birdsall points out. Poor parents who see little chance of educating their children and expect to lose some through death are unlikely to reduce family size in order to "invest" more in each child, Birdsall observes.

In general, high fertility and large proportions of people in absolute poverty go along with low per capita country incomes. But some developing countires are showing that there's a way out of "the vicious cycle of rapid population growth and continuing poverty" even where per capita income remains low, says Birdsall. In China and Indonesia, "concerted efforts to bring family planning services to the mass of people in the villages" have helped drop China's birth rate from 40 per 1,000 population in the 1960s to an official 18 per 1,000. In Indonesia, the birth rate may now be 35, down from 47 in 1960. With similar efforts in Taiwan and Colombia, birth rate declines have been as rapid among the least educated, poor women as among the better off. In Sri Lanka and Cuba, health and education services have been made widely available to the poor and fertility is lower than might be expected for the proportions of population technically below the poverty cutoff line.

On the other hand, fertility is higher than might be expected for their level of per capita income and proportions of poor people in some Latin American countries such as Brazil, Mexico, and Venezuela, Birdsall observes. The explanation is probably the poor's lesser share in total income, she says. Narrowing the income gap between rich and poor helps the poor to feel that "they or at least their children have more chances to better their lot in life" and this could encourge poor parents to reduce their family size in order to put more investment into fewer children.

An economist with the Population and Human Resorces Division of the World Bank's Development Economics Department, Nancy Birdsall is an expert on human resources aspects of development. Among her numerous publications, she is co-author of the monograph *The Policy Relevance of Recent Social Research on Fertility* and of "Demography and Development in the 1980s," in *World Population and Development: Challenges and Prospects* (edited by Philip Hauser, 1979). Her 46-page *Bulletin*, "Population Growth and Poverty in the Developing World" (Vol. 35, No. 5, December 1980) is adapted and updated from a study prepared as background to the World Bank's *World Development Report, 1980*.

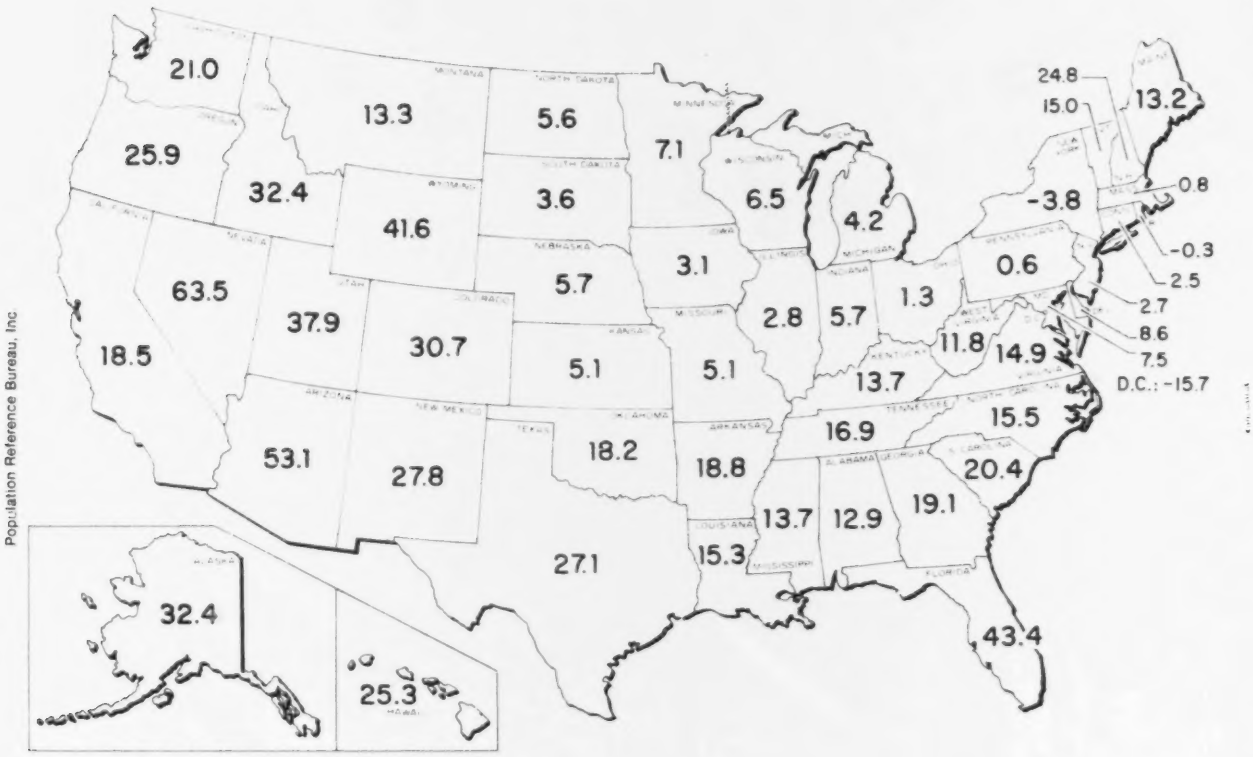
Additional copies of this *Bulletin* can be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013, at $2.00 per single copy; 2-49 copies, $1.75 each; 50 copies or more, $1.50 each. Also available are 35mm colored slides of the *Bulletin's* 13 figures and tables at $6.50 per set.

Most Cambodians Now Receiving Food

International relief efforts and good crop harvests in the last half year have led to marked improvements in the situation in Cambodia, according to Henry Kamm, refugee specialist of the New York Times. After last year's widespread famine in the country, international aid organizations (primarily UNICEF and the International Committee of the Red Cross) were able to supply minimal food rations to most Cambodians. A good rainy season between June and October and the resultant large harvest of corn, yams, vegetables, and rice have led officials of these organizations to plan to ultimately taper off their relief efforts.

Cambodia continues to be occupied by 200,000 Vietnamese troops. Minor resistance continues from remnants of the army of Pol Pot and to a lesser extent from the Khmer People National Liberation Front. About 200,000 Cambodians are still located in refugee centers on both sides of the Thai border.

Population Increase of States from 1970 to 1980 (%)



Population Reference Bureau, Inc.

1980 Census Totals Show U.S. Grew 11.4 Percent During '70s

Continued from page 1

census figures during 1981 unless required to by the courts.

The question of where the 4.8 million mystery people came from is open to a number of interpretations, however. The 1980 Census did take great pains to try to overcome perceived citizen resistance to its canvass, including massive advertising and liaison efforts with local groups. The result was 86.6 percent response rate without followup—somewhat higher than anticipated.

In addition, the Census Bureau inaugurated special procedures to improve census coverge, including checks against nonhousehold records, methods to insure full listing of household members by respondents, and increased coverage of vacant-but-occupied households.

One curious fact is that virtually all of the 4.8 million "new" people were found in the South and West; the North and North Central counts were close to earlier estimates. Why this should be so is not known.

Undocumented aliens might constitute part of the mystery 4.8 million, but it is not considered likely that they are the major cause of the increase. The most likely explanation for the increase is simply that the 1970 Census undercounted the U.S. population by even more than the estimated undercount of 2.5 percent. Consequently, intercensal estimates based on that census were also low, right up to the recent estimates of 1980 population.

If the total U.S. population is greater than previously thought, the new numbers will change current vital rates, which should give demographers some interesting rate problems to ponder (see "Beware the Devious Denominator," page 6.)

"By far the most accurate Census...."

All during 1980 the Census Bureau has been in and out of court, and not until the day before the Dec. 31 deadline was it clear that the Bureau would legally be able to submit its tally to the President, as required by law. On Dec. 24, Supreme Court Justice Potter Stewart set aside the court order barring issuance of 1980 Census figures, the order made by U.S. District Court Judge Horace W. Gilmore in the Detroit case. On Dec. 30 the Court also voted 7-1 to set aside a similar order by U.S. District Court Judge Henry Werker in the New York case.

The Detroit and New York cases are suits by officials in those jurisdictions alleging the 1980 Census cannot lawfully be used for congressional reapportionment because its alleged undercount would contribute to that jurisdiction's underrepresentation in Congress. Similar legal challenges have come from 11 other states, but those cases are still pending; the New York and Detroit cases had resulted in court decision—specifically, those court orders, either of which would have blocked the census report. Now, those orders are set aside, pending appeal, and the Census Bureau has been freed to proceed for now. The point at issue—the acceptability of the unadjusted census figures for use in reappor-

Continued on page 6

1980 Census Final Population Count and Congressional Reapportionment (compared with 1970)

Region, division, state	1980 resident population	1970 resident population	% change 1970-1980	No. representatives based on 1980 Census	Change from 1970 apportionment
United States	226,504,825	203,302,031	11.4	435	—
Northeast	49,136,667	49,060,514	0.2	95	– 9
New England	12,348,493	11,847,245	4.2	24	– 1
Maine	1,124,660	993,722	13.2	2	
New Hampshire	,920,610	737,681	24.8	2	
Vermont	511,456	444,732	15.0	1	
Massachusetts	5,737,037	5,689,170	0.8	11	– 1
Rhode Island	947,154	,949,723	– 0.3	2	
Connecticut	3,107,576	3,032,217	2.5	6	
Middle Atlantic	36,788,174	37,213,269	1.1	71	– 8
New York	17,557,288	18,241,391	– 3.7	34	– 5
New Jersey	7,364,158	7,171,112	2.7	14	– 1
Pennsylvania	11,866,728	11,800,766	0.6	23	– 2
North Central	58,853,804	56,590,294	4.0	113	– 8
East North Central	*41,669,738*	40,262,747	3.5	80	– 6
Ohio	10,797,419	10,657,423	1.3	21	– 2
Indiana	5,490,179	5,195,392	5.7	10	– 1
Illinois	11,418,461	11,110,285	2.8	22	– 2
Michigan	9,258,344	8,881,826	4.2	18	– 1
Wisconsin	4,705,335	4,417,821	6.5	9	
West North Central	17,184,066	16,327,547	5.2	33	– 2
Minnesota	4,077,148	3,806,103	7.1	8	
Iowa	2,913,387	2,825,368	3.1	6	
Missouri	4,917,444	4,677,623	5.1	9	– 1
North Dakota	652,695	617792	5.6	1	
South Dakota	690,178	666,257	3.6	1	– 1
Nebraska	1,570,006	1,485,333	5.7	3	
Kansas	2,363,208	2,249,071	5.1	5	
South	75,349,155	62,812,980	20.0	142	+ 8
South Atlantic	36,943,139	30,678,826	20.4	69	+ 4
Delaware	595,225	548,104	8.6	1	
Maryland	4,216,446	3,923,897	7.5	8	
District of Columbia[a]	637,651	756,668	– 15.8	—	
Virginia	5,346,279	4,651,448	14.9	10	
West Virginia	1,949,644	1,744,237	18.8	4	
North Carolina	5,874,429	5,084,411	15.5	11	
South Carolina	3,119,208	2,590,713	20.4	6	
Georgia	5,464,265	4,587,930	19.1	10	
Florida	9,739,992	6,791,418	43.4	19	+ 4
East South Central	14,662,882	12,808,077	14.5	28	+ 1
Kentucky	3,661,433	3,220,711	13.7	7	
Tennessee	4,590,750	3,926,018	16.9	9	+ 1
Alabama	3,890,061	3,444,354	12.9	7	
Mississippi	2,520,638	2,216,994	13.7	5	
West South Central	23,743,134	19,326,077	22.9	45	+ 3
Arkansas	2,285,513	1,923,322	18.8	4	
Louisiana	4,203,972	3,644,637	15.3	8	
Oklahoma	3,025,266	2,559,463	18.2	6	
Texas	14,228,383	11,198,655	27.1	27	+ 3
West	43,165,199	34,838,243	23.9	85	+ 9
Mountain	11,368,330	8,289,901	37.1	24	+ 5
Montana	786,690	694,409	13.3	2	
Idaho	943,935	713,015	32.4	2	
Wyoming	470,816	332,416	41.6	1	
Colorado	2,888,834	2,209,596	30.7	6	+ 1
New Mexico	1,299,968	1,017,055	27.8	3	+ 1
Arizona	2,717,866	1,775,399	53.1	5	+ 1
Utah	1,461,037	1,059,273	37.9	3	+ 1
Nevada	799,184	488,738	63.5	2	+ 1
Pacific	31,796,869	26,548,342	19.8	61	+ 4
Washington	4,130,163	3,413,244	21.0	8	+ 1
Oregon	2,632,663	2,091,533	25.9	5	+ 1
California	23,668,562	19,971,069	18.5	45	+ 2
Alaska	400,481	302,583	32.4	1	
Hawaii	965,000	769,913	25.3	2	

[a]excluded in determination of apportionment.

Source: U.S. Bureau of the Census

Continued from page 4
tionment—has yet to be conclusively decided; when that happens it will probably be at the Supreme Court level many months from now.

On April 1, 1981, assuming another court order does not prevent it, the Bureau will report state and local totals to the states for purposes of state reapportionment.

In presenting the official count to the Secretary of Commerce, Director Barabba expressed satisfaction at the census results ("by far the most accurate census ever taken"). He added: "However, in the years ahead, as we develop the ability to determine what areas may have been undercounted by the census, as small as these numbers may be, we would make adjustments to reflect these findings to the population estimates that are the basis for distributing federal funds. We also recognize that because of pending litigation, we may later be required to make widespread adjustments before all numbers are considered final."

Barabba, in his year-long battle against the forces of undercount adjustment, seems to be laying down what (at least from the Bureau's point of view) would be a practical resolution to the undercount problem: that the Bureau's final, unadjusted count be considered official, for the puposes of decennial apportionment; and that, between censuses, the Bureau's current population estimates, adjusted for undercount insofar as practical, be the figures used for the funding formulas which the cities and states are so concerned about.

Barabba, however, will not be at the Bureau to see the result. This was his second tour of duty as Director of the Census Bureau. As he announced he would do, he has left the Bureau (effective Jan. 10, 1981) for a new position as manager of market development at Eastman Kodak. Daniel Levine is now Acting Director; a new permanent Director will be named by President Reagan.

After every decennial census, the 435-member House of Representative is reapportioned; the reapportionment following the 1980 Census will become manifest in the 1982 elections. In order to apportion the states fairly, a mathematical method is used (see "Demographer's Page," page 8), so the shift in representatives is already known. Eleven states gained representatives; 10 lost. The biggest gainer is Florida, with four new members. The biggest loser is New York, which lost five.

The new census does not change much for the U.S. as a country among countries. Its growth of 23,202,794 over 10 years does not count for much by world standards. India increases by that much every 22 months. The U.S. maintains its place as the fourth most populous country (after China, India, and the USSR), containing about 5 percent of all the people in the world.

positions/professionals

Executive Director, Planned Parenthood of Southeast Pennsylvania, Philadelphia, to assume executive, administrative, fund-raising, and public relations responsibilities, and be responsible to the Board of Directors. *Qualifications:* Bachelors degree, five years management experience (family planning experience helpful), and strong commitment to the cause of reproductive freedom. *Salary:* negotiable. *Contact:* Search Committee, Planned Parenthood of Southeastern Pennsylvania, 1220 Sansom St., Philadelphia, Pa. 19107.

Technician in Demography, Mississippi State University, to work on population estimates and projections and methodology development. *Qualifications:* computer programming and ability to handle large data files required; master's degree in statistics, demography, or related area preferred. *Salary:* $13,000. *Contact:* Dept. of Sociology, P.O. Drawer C, Mississippi State University (an equal opportunity/affirmative action employer), Mississippi State, MS 39762.

People the Census Doesn't Count

The 1980 Census total of 226,504,825 represents the *resident population* of the 50 states and the District of Columbia. The resident population means everyone residing there—citizen or not. (The only exceptions are diplomats residing in embassies and foreign tourists.)

The resident population of each state is the figure used for determining apportionment.

What about U.S. citizens residing outside the U.S.? They are not included in the census count. Nor are people living in areas connected with the U.S., such as Puerto Rico. Current estimates of these "non-census" population groups are given below:

Puerto Rico	3,187,570
U.S. Territories (American Samoa, Marianas, Virgin Islands, Guam)	250,183
Trust Territory of the Pacific Islands	126,000
U.S. armed forces overseas	494,680
U.S. government employees overseas	43,875
U.S. government and armed forces dependents	405,142
Other U.S. citizens residing in foreign countries	1,500,000

In 1970, during the height of the Vietnam war, when there were over a million armed forces personnel overseas, the Census Bureau did attempt to count and tally them according to their state of residence. This practice was not followed in the 1980 Census.

Beware the Devious Denominator

Among the many implications of the 1980 Census count, one which may have been overlooked until now is the effect the unexpectedly large 1980 count has on very many rates which use population in the denominator. In fact, all recent published rates for the U.S which are expressed in such terms as *per capita* or "per 1,000 population" are now, well, wrong.

For example, take the crude birth rate for the 12 months ending September 1980 quoted on page 15 of this issue. Notice that the rate of 16.1 uses a denominator of 221.7 million resident population. Well, 3,559,000 births divided by 221,672,000, (the previous estimate for the April 1, 1980, resident population) equals 16.1, but the population wasn't 221,672,000 it was 226,504,825. So the crude birth rate for the year centered on April 1, 1980 wasn't 16.1, it was 15.7!

The list of statistical nightmares is endless. The total fertility rate during 1979 wasn't 1.84, it was lower. Life expectancy is higher than we thought. And state comparisons suffer due to the large numbers of persons found in the South and West. Poor Nevada has a high crime rate, but not as high as was thought. The state's crime rate in 1977 was calculated as 7,968 serious crimes per 1,000 population. But it wasn't. Nevada's population in 1977 was probably closer to 706,000 in 1977, so the crime rate was more like 7,144. Still high, but better.

Although some rates are not affected, such as infant mortality, the new Census count means that demographers and statisticians will be busier than ever and that footnotes will be in fashion.

The Water and Sanitation Decade Begins:

Water: The Key to 'Health for All'

Everybody everywhere needs water every day for every part of their lives. Twenty to 50 liters (5 to 13 gallons) a day for personal use is the estimate for a minimally acceptable standard of living: for drinking, bathing, cooking, sanitation, washing. As the standard of living increases, so does the need for water—in the wealthier urban areas of the less developed world, water consumption can be 200 liters (52 gallons) per person a day on up.

One way or another, everybody obtains water. In the more developed countries (MDCs), most people can walk into the next room and simply turn a tap. But in less developed countries (LDCs), getting water is more difficult. In a rural area of Africa or Latin America, the trek to and from the nearest reasonably safe drinking water may require hours of walking each day to supply the family. In a teeming LDC city, women may line up for hours to fill vessels at a public tap or well. And the water supply often depends on sources easily contaminated by nearby disposal of body wastes. Thus public health is jeopardized through lack of knowledge and poor sanitation, and in many places is exacerbated by population density, which renders the water sources and waste disposal methods inadequate.

Water contamination and primitive waste disposal are simple problems, but they represent two major causes of human suffering. Disease is calculated to take up one-tenth of the productive time of an average person in the LDCs. The enormous gap in life expectancy between the LDCs and MDCs—57 years versus 73 years—is almost entirely due to the LDCs' tragically high infant and child mortality, caused in large part by such infectious (and waterborne) diseases as cholera, dysentery, and diarrhea. The World Bank calculated that if the LDC child and infant mortality rates were to be reduced to MDC levels, the discrepancy in life expectancy could be reduced from 15 years to between three and five years.

One key to attaining this health goal is improved water quality. But when the World Health Organization made a worldwide survey in 1975 (excluding China), it found that of the 2 billion people in LDCs, only 500 million had access to adequate supplies of safe water and adquate waste-disposal facilities. Of those living in rural areas, less than 20 percent had access; and in urban areas, between one-third and one-half.

The situation is worst in South and Southeast Asia—where two-thirds of the people are without adequate safe water.

The survey showed that compared to 1970, figures for 1975 showed a dramatic improvement in the number of people with access to safe water—700 million. Nonetheless, world population increase during that period was close to 350 million also; thus the total number of people without safe water probably did not diminish significantly. As of 1975, the WHO survey showed some 1.23 billion people without safe water and 1.35 billion without adequate sanitation.

Because of this situation, the UN Water Conference in Mar del Plata, Argentina, in 1977 recommended that the UN sponsor a decade of commitment to providing safe water and adequate sanitation for all by 1990. Such an achievement would go a long way toward implementing WHO's principal commitment for "health for all" by 2000. Following up on Mar del Plata, a "Rapid Assessment" was conducted from 1977-1979 during which close to 110 country reports were prepared by national experts and WHO staff describing the water-sanitation status and needs of each country. And on Nov. 10, 1980, the UN General Assembly in a special session launched the International Drinking Water Supply and Sanitation Decade 1981-1990.

Specific targets of the Decade are to be established by the government of each country, and the greatest proportion of the cost will have to be borne by these countries, with WHO providing technical help and overall cooordination through a world Steering Committee, which is already in place.

Cost of fulfilling the goals of the Decade is immense. The World Bank has estimated that for the LDC urban areas to be served on a full-fledged basis (individual hookups of water and sanitation to houses) and LDC rural areas to be served at a lesser level (public standpipes and latrines) would cost $600 billion (in 1978 dollars). This is a lot of money—and is 10 times the investment made in LDC water and sanitation during the 1970's. But since some 2.3 billion people would have to be served, the cost breaks down to something like $300 per person.

Given the current status of LDC economies and foreign assistance, it seems unlikely that sums of such magnitude will be forthcoming. So the World Bank has estimated the costs of different approaches to safe water and sanitation (from no frills to deluxe) and has come up with the following estimates:

Total Capital Costs per Capita of Alternative Types of Water Supply and Sanitation in LDCs

Type of service	Urban	Rural
Water supply		
with house connection	US $120	US $150
with standpipe	40	40
with hand pumps	—	25
Sanitation		
with sewerage	250	250
with septic tank	100	—
with latrine	30	20

Note. Cost in 1978 U.S. dollars.

By going for less elaborate systems (public standpipes in the cities instead of individual house hook-ups, for example), the World Bank calculates that the achievement of Water Decade objectives might be accomplished for "only" $300 billion instead of $600 billion—a figure that works out to $30 billion a year, or more than twice what has been invested in water in recent years.

Nonetheless, the Water Decade is stimulating more attention—and funding—to this vital health area. The World Bank expects to have commitments to the water sector amounting to $700 million annually for FY 1979-1983, up from the $300 million annual figure for FY 1974-1978. UNICEF has increased its water/sanitation support five-fold in the last five years and now gives 28 percent of its funds to water and sanitation. In the 1970s the U.S. has bilaterally supported water and sanitation projects through the Agency for International Development with more than $590 million in development assistance, as well as over $1 billion in economic support funds for similar purposes. Subject to congressional approval, AID plans to provide $196 million for water and sanitation assistance during 1981.

For further information about the Water Decade, see the 46-page booklet *Water Supply and Waste Disposal* in the Basic Needs series, available from the Publications Unit, World Bank, 1818 H St. NW, Washington, D.C. 20043.

demographer's page

The authors of this month's Demographer's Page are Dudley L. Poston, Jr., Professor of Sociology and Director of the Graduate Training Program in Demography and Human Ecology at the University of Texas at Austin, and Marion Tolbert Coleman, a doctoral student in sociology and demography at the same institution. Both authors are affiliated with the University's Population Research Center.

The Mechanics of Congressional Apportionment

by Dudley L. Poston, Jr., and
Marion Tolbert Coleman

The first national census was taken in the United States in 1790, three years after the framing of the Constitution. This enumeration was conducted to provide an empirical basis for apportioning representation in the U.S. House of Representatives and for determining levels of taxation among the 13 states then in the Union. The latter function was subsequently assumed by the Internal Revenue Service, but the former remains today as the principal reason for taking a decennial census. Indeed the requirement for a decennial census of the population was written into the Constitution in 1787:

> Representatives and direct taxes shall be apportioned among the several states which may be included within this Union according to their respective numbers . . . The actual enumeration shall be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years in such manner as they shall by law direct.
> *Article 1, Section 2, of the U.S. Constitution.*

Although the delegates to the Constitutional Convention required that seats in the House of Representatives be distributed among the states according to their population, they did not attempt to specify the mechanics of Congressional reapportionment. The apportionment procedure used today is known as the *method of equal proportions.* It was adopted by the Congress in 1941 as the official procedure after more than 150 years of experimentation, analysis, and constitutional debate.

Method of Equal Proportions

The major issue in determining distribution in the U.S. House of Representatives is equity. No matter what the population size, the number of House seats by law must remain at 435. Furthermore, partial representatives cannot be assigned to states, nor can representatives be given fractional votes be shared by two or more states.

Given these parameters, how can seats be most equitably assigned? The Constitution requires that every state be assigned at least one seat in the House. Therefore, the first 50 seats are taken. The issue then is one of dividing up the remaining 385 seats—which states should receive second seats, third seats, etc.?

Equity considerations dictate that the population requirements for seats beyond the initial seat be increased proportionally. The method of equal proportions attempts to achieve the fairest distribution possible. With one slight adjustment after the 1970 Census, it has remained in use since adoption in 1941 and will comprise the basis for House reapportionment in 1981.

The way this method is employed has been extensively described in *Census '80: Continuing the Factfinder Tradition*[1] (in a section prepared by the first author of this article.). The first step is to multiply the *apportionment population** of each state by the following fraction:

$$\frac{1}{\sqrt{N(N-1)}}$$

where N equals the particular seat being claimed, that is, the second seat or the third seat, or the fourth seat, etc. Multiplying this proportion by the states' apportionment populations provides numbers known as *priority values.*

Let us now examine the priority values for the various numbered seats. The proportion used in determining a claim to a second seat is

$$\frac{1}{\sqrt{2(2-1)}} = \frac{1}{\sqrt{2(1)}} = \frac{1}{\sqrt{2}} = \frac{1}{1.41421356}$$

or 0.70710678. The proportion used in determining claims to a third seat is

$$\frac{1}{\sqrt{3(3-1)}}$$

or 0.40824829. As another example, the proportion used in determining claims for a 40th seat is

$$\frac{1}{\sqrt{40(40-1)}}$$

or 0.02531848.

*In past years the apportionment population has been defined as the resident population of the state as determined by the decennial census. For the Congressional reapportionment of 1971 only, the apportionment population was broadened to include all American military and civilian personnel of the Federal Goverment from the state who were abroad as of April 1, 1970, and their dependents; this extension of the definition resulted from the increasingly large numbers of U.S. citizens overseas, a matter which had been reviewed in 1950 and 1960, but which had not been incorporated into the apportionment population because the Attorney-General determined their numbers then were too few for inclusion. It is important to note that the apportionment population as presently defined is used only at the state level. For redistricting below the state, the resident population must be employed.[2]

Since the various proportions are roughly equal to 1/N, the proportion used for claiming a second seat is larger than the proportion needed to claim a third seat or a 40th seat.

Having developed the respective proportions used for determining priorities for various seats, these proportions are multiplied by the apportionment populations of each of the 50 states. That is, the proportion used for determining the states' priorities for a second seat (0.70710678) is multiplied by the populations of each of the 50 states. This procedure is then repeated using the proportion based on priorities for a third seat (.040824829). The proportions to determine priorities for a fourth, fifth, etc., seats are also multiplied by the apportionment populations of each of the 50 states. After all of these multiplications, the resulting "priority values" are then ranked in order, the largest first. Table 1 shows that California received the 51st seat after the 1970 Census. Its priority value for a second seat, 14,212,042, was determined by multiplying its 1970 apportionment population of 20,098,863 by the proportion where N = 2 (or .70710678). New York was next in line with a priority value for a second seat of 12,913,236, which was determined by multiplying its 1970 apportionment population of 18,287,529 by .70710678. Pennsylvania received the 53rd seat in the House with its priority value for a second seat of 8,403,479. The 54th seat in the House, however, was assigned to California. Its priority value for a third (8,205,326 = 20,098,863 times the proportion where N = 3, or .40824829) was larger than the priority values of many of the other states for a second seat. The states of Texas, Illinois, and Ohio received the 55th, 56th, and 57th seats respectively, these states claiming seats on the basis of their given its priority value for a third seat of 7,465,852. The state of Michigan received its second seat as the 59th seat, and California received its fourth seat as the 60th in the House.

Table 1
Application of the Method of Equal Proportions in 1971: Allocating the First and Last 10 Seats

Numbered seat in House	State	Numbered seat in the state	Priority value
First 10 seats			
51	California	2	14,212,042
52	New York	2	12,931,236
53	Pennsylvania	2	8,403,479
54	California	3	8,205,326
55	Texas	2	7,989,449
56	Illinios	2	7,908,509
57	Ohio	2	7,587,397
58	New York	3	7,465,852
59	Michigan	2	6,319,552
60	California	4	5,802,042
Last 10 seats			
426	Michigan	19	483,268
427	Texas	24	480,908
428	South Carolina	6	477,855
429	Ohio	23	477,016
430	South Dakota	2	476,058
431	Illinios	24	476,036
432	New York	39	475,041
433	Florida	15	473,088
434	California	43	472,947
435	Oklahoma	6	472,043

Source: Charles P. Kaplan, Thomas L. Van Valey and Associates, *Census '80: Continuing the Factfinder Tradition*, Washington, D.C., U.S. Government Printing Office, 1980, p. 119.

Table 1 also shows the states receiving the last ten seats in the House of Representatives. Observe, for example, that California's priority value for a 43rd seat (472,947) was greater than Oklahoma's priority value for a sixth seat (472,043), so that the 434th seat was assigned to California. Oklahoma received the 435th, and last seat in the House of Representatives, as its sixth seat.

The priority value for the state of Oregon for its fifth seat was 471,991 a priority value only slightly less than the priority value for Oklahoma for its sixth seat. Since Oklahoma had already received the 435th and last seat, Oregon just missed receiving its fifth seat.

Some states received only one seat: Alaska, Delaware, Nevada, North Dakota, Vermont and Wyoming. The priority values for these states for a second seat were less than the priority value justifying Oklahoma's claim to a sixth seat.

One way of determining the fairness of the method of equal proportions is to examine percentage difference in population per representative for any pair of states. Using the calculations for 1970 as an example, we compare Oklahoma with Connecticut. As noted, Oklahoma received six seats for an average number of persons per representative of 430,914. Connecticut also received six seats for an average number of persons per representative of 508,449. The average number of persons per representative in Connecticut was almost 18 percent greater than the average in Oklahoma. However, if a seat were taken from Oklahoma and assigned to Connecticut, the number of persons per representative would then be almost 18.7 percent greater in Oklahoma. Perhaps the fact that the method of equal proportions has generated little, if any, controversy about the mechanics of apportionment since its inception in 1941 is an indication of its overall equity.

History of Apportionment Procedures[3]

Extensive controversy about the mechanics of reapportionment did exist, however, for the 150 years prior to the adoption of the method of equal proportions. The history of U.S. Congressional apportionment procedures involves some of the better known figures in our country's heritage. In fact the first bill vetoed under the new constitution by President Washington was a plan for apportionment. Thomas Jefferson's plan, assigning one representative for every 33,000 persons in a state, was the method used after the 1790 Census and continued to be the basic plan of apportionment through the 1830 Census.

The apportionment issue again surfaced in 1832 when Daniel Wester and others argued that the Jefferson plan "discriminated against small states by disregarding the fractions of a quota no matter how

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demographer's page

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large."[4] The heart of Webster's argument was that the Constitution explicitly stated that seats be assigned "as near as may be" to the population of each state. A modified form of his plan awarding an additional seat to every state having one-half or more of the appropriate divisor was used in 1840. This resulted in the reduction of the size of the House by 17 members. Although used only once, the Webster plan remained a major influence on later apportionment methods because of its constitutonal interpretation.

The Vinton plan, adopted in 1850 and used through 1900, attempted to combat the major problem inherent in the earlier methods, i.e., the inability to predetermine the size of the house. It set a fixed number of members, derived a quota (an average national ratio of population per member), and divided the population of each state by this quota. It then assigned one member to each state with less than one quota and assigned a number equal to the integer of the exact quota to all other states. Finally the remaining seats were assigned to those states with the largest fractions of a quota. The use of this method resulted in what has become known as the "Alabama paradox," the situation whereby a state would lose a seat if the size of the House were increased.

In 1910 W.F. Wilcox of Cornell University developed the "major fractions method" of apportionment. This plan assigned each of the states a seat and then developed a priority list for assigning the remaining seats. It was called "major fractions" because by "using an arbitrary divisor (not the earlier exact quota) every state with 2 or more seats received a member for each integer and each major fraction of the selected divisor."[5] This method did overcome the Alabama paradox. However, its interpretation of the Constitution's "as near as may be" phrase was the ratio of members divided by population. An equally fair case could be made for the interpretation to be the equal distribution of congressional districts, that is, population divided by members.

Finally in 1929 a committee from the National Academy of Sciences was convened to consider all the mathematically correct apportionment methods: major fractions, harmonic means, smallest divisors, greatest divisors, and equal proportions. The committee noted that since fractional voting is not allowed apportionment based on proportions is not possible. They concluded that the problem was really one of applied mathematics, i.e., needing a solution based on a rationale outside mathematics. They decided that the method of equal proportions satisfied both sides of the apportionment problem: size of districts and number of sets. Furthermore it did not discriminate by size of state.

After extensive House and Senate hearings it was decided that automatic reapportionment would follow each census. Congress also decided that the results using both the major fractions and equal proportions methods be reported by the President, but that the major fractions method be used for automatic reapportionment.

The 1930 Census was the first census to follow these decisions, and the two methods produced identical distributions. However, in 1940 the two methods gave different results. Under the major fractions method, Michigan gained a seat lost by Oklahoma. Automatic reapportionment measures were then invoked, but the Congress immediately began reconsideration of the two methods. It was decided that only the method of equal proportions be reported in 1950, and the decision was made retroactive so that Oklahoma could regain its seat. Excepting the definitional change in 1970 noted previously, the method of equal proportions has remained basically unquestioned and unchanged since 1941.

References

1. Portions of this section adapted from Charles P. Kaplan, Thomas L. Van Valey and Associates, *Census '80: Continuing the Factfinder Tradition*, Washington, D.C., U.S. Government Printing Office, 1980, pp. 114-119.
2. For a detailed statement see Steve Bickerstaff, "Reapportionment by State Legislatures: A Guide for the 1980's," *Southwestern Law Journal* 34(June, 1980), pp. 607-686.
3. This section adapted from U.S. Congress, House, Commisssion of Post Office and Civil Service, *The Decennial Population Census and Congressional Apportionment*, HR 91-1314, Washington, D.C., U.S. Government Printing Office, 1970.
4. *Ibid.*, p. 15.
5. *Ibid.*, p. 16.

INTERCOM wishes to correct the October 1980 capsule on birth control and Jewish law. Our source of information, the IPPF OPEN FILE, was found on further examination to be quoting only one Israeli rabbi on the subject. Generally speaking, birth control is by all means considered "kosher" in Jewish law. In fact, women in situations of hazard to their health are required to use birth control if necessary, and all other women are free to do so if they choose. The pill and family planning in general may be used to postpone childbearing for practical or romantic reasons. No justification for the postponement is actually required, though financial reasons are least worthy, since material considerations pale in comparison to the spiritual and selfless act of bearing and raising children, considered a "mitzvah." Jewish views on abortion are grounded in a concern for the mother's welfare. Abortion is not only permitted, but required if the mother's life is endangered. According to Jewish law, human life begins at the "crowning of the head" from the birth canal; the fetus is not a person until born. Abortion, then, is not considered in terms of the taking of a person's life. Needless to say, this issue is much debated within Judaism, with Reform Jews tending to be more permissive and Orthodox Jews tending to be more restrictive in their interpretation of the law. INTERCOM regrets any misleading impressions given by the capsule.

Some Historical Perspectives on the 1980 Census

by Anne S. Lee

The fire which struck the Brooklyn office of the U.S. Census Bureau on Oct. 27, 1980, only strengthened many people's impression that the 20th decennial census has been the most bedeviled in U.S. history. From the start there were problems with hiring and address labels, and by the end of 1980 the Bureau was defending its methods and results in and out of court. But the 1980 Census's troubles were hardly unique. Almost every problem that has surfaced in 1980—and others besides—have happened before in earlier censuses.

In 1890, for example, there was major destruction of envelopes (and later of punch cards). One observer noted that it was not unusual "to go into the office and find a large pile of envelopes and circulars torn up" and that many were taken off to a junk shop and burned. By the same token, a fire destroyed the 1850 returns for San Francisco County before they could be sent to Washington and that same year returns for Contra Costa and Santa Clara Counties were lost on the way to the Census Office. Perhaps because California was not a state on Census Day (statehood arrived later that year), no provision was made for a reenumeration and the counties remained blank in the 1850 tables. Instead, Congress decreed in 1853 that the returns for the State Census of 1852 be attached to the 7th Census; according to these data the three "missing" counties contained more than 45,000 persons, or about a fifth of the state's population.

Counting and Recounting

There have been recounts in the past but the reasons for them have varied. Both New York and Philadelphia were reenumerated in 1870 by executive order of the President because of suspected undercounts. According to then-Census Superintendent Francis Walker, in New York "city authorities had there committed themselves to the deepest hostility against the census; and both the original enumeration and the reenumeration under executive order were followed with eager and vindictive criticism, while every obstacle, short of actual physical resistance, was thrown in the way of the agents of the General Government."

The recount showed an increase of 18,348 or about 2 percent, and Walker declared it a complete vindication of the census. By contrast, in Philadelphia the recount was conducted "in the fullest concert and cooperation with the city authorities." There the increase was about 2½ percent and Walker maintained that the differences in both cities could be attributed to the change in date of the enumeration.

There were recounts in 1880 as well but curiously, the case of South Carolina, the reason was suspicion of an overcount. Sample precincts were enumerated and census officials interviewed to determine their qualifications (including political affiliation). Henry Gannett prepared a detailed analysis of the returns and concluded that the problem was an undercount in 1870. St. Louis was reenumerated that same year, at a cost of $4,373.60, including $10.50 for interpreters. Census reports give no reason for this curious entry.

That cities were difficult to enumerate was recognized as early as the 1st Census. George Washington reported in his journal in the spring of 1791 that Wilmington, North Carolina, had probably been undercounted in 1790. The editor of *Niles Weekly* complained in 1811, when he reprinted the 1790-1810 returns as a public service, that the returns for Philadelphia made it impossible to distinguish accurately and consistently between the city, its suburbs, and the rest of the county. And there were complaints after the 1840 Census that Boston was miscounted when entries were found which showed that one family "numbered over a thousand persons, of whom only five or six were females." (This turned out to be a sailors' boarding house.)

Bettman Archive

Wonderful effect of the appearance of the census enumerator

Francis Walker maintained in his report on the 1870 Census that complaints against the census were "due to exaggerated and unreasonable expectations as to the population"; that "few, if any, serious complaints" came from cities of the second or third class; and that the major complainers were "smaller cities," "small towns that aspire to be considered cities," and cities "of the first class, disputing the supremacy of the continent." He went on to note that it was usually not so much "the inadequate representation of the town or city itself, as of the supremacy attributed to some immediate rival."

By 1890 the situation was so bad that writer Frederick S. Daniel described it as the "war of the recounting" as he detailed the efforts made by various cities, notably St. Paul, Minneapolis, and New York City, to obtain other data to support (unsuccessfully) their claims of undercounting. It was at that same census that Census Superintendent Robert Porter observed that differences between expected and actual population counts could be explained in terms of changes in household size. Noting that the number of households had increased by 28 percent but the population by but 25 percent, he added that this caused the estimates to be too low and "the people of the country, and not the Superintendent of the Census, are responsible for that."

Questions about confidentiality are of recent vintage because initially the U.S. marshals (who conducted the early censuses door to door) were required to post all schedules in a public place. The 1840 instructions to marshals did require that it be "inculcated upon the assistant that he consider all communications made to him in the performance of this duty, relative to the business of the people, as strictly confidential." By 1870, recommendations were made to "protect the confidential character of the Census" from "impertinent or malicious examination." Where confidentiality was an issue was with respect to the nature of the questions being asked. Several counties in the South "refused peremptorily" to reply to the industrial questions in 1840 and one journal referred

Continued on next page

Anne S. Lee is a research consultant in demography. She has done extensive work on the history of the U.S. Census.

Continued from preceding page

to the "federal prying into the domestic economy" going on to ask "Is nothing to escape its inquisitors. . .?"

The real uproar came in 1890. *The Nation* devoted an article to census questions, calling them "one of the most curious aberrations" and an "impertinence" and adding that they touched "the two things on which all men and women are most reluctant to give information to anyone—their bodily ailments and their pecuniary condition." *Frank Leslie's Popular Monthly* carried cartoons to support its contention that the questions were "crudely drawn, and offensive, because impertinently inquisitive."

Another issue raised in 1980 was the appropriate base for representation and the identification in the census of persons who should be excluded for representation. This question dates back to the 1st Census since the Constitution required that Indians not taxed be excluded and that only three-fifths of the slaves be counted for representation. No provision was made on the schedules for counting Indians but DeBow reported their number in 1850.

An even greater problem was created by the Fourteenth Amendment and the House appointed a committee chaired by James Garfield to ascertain what changes would be needed in the 1890 Census. Two new questions were introduced (under the heading "Constitutional Relations") to identify male citizens 21 years of age and upwards and those in this category whose "right to vote is denied or abridged on other grounds than rebellion or other crime." The instructions pointed out the difficulties of obtaining accurate information on this latter item and when the returns were tabulated the Superintendent stated: "The Census is not the proper place for such an inquiry. The questions of Citizenship and the denial of suffrage to rightful citizens are mixed questions of law and fact, which an assistant marshal is not competent to decide. No particular value is attributed to the results of these questions, so far as the original object is concerned."

The question of illegal aliens was addressed in connection with the Chinese. In 1870 a specific racial category was introduced "so as to throw some light on the grave questions which the arrival of the Celestials [Chinese] among us has raised." In 1890 a bill was introduced in the House "to secure a careful and accurate enumeration of the Chinese. . . and in connection with such enumeration to issue to each Chinese person a certificate which shall thereafter be evidence of the right of such person to be and remain in the United States."

'Thousands of Growls'

While the present Director of the Census has spent much time in court and out answering critics of the census, his trials and tribulations tend to pale in comparison with some of his predecessors. Joseph Kennedy, who directed the 1850 Census, entered into a lengthy dispute with the Treasury Department over the expenses—ale, candles, coal, and even washing—he incurred on an official trip to Europe. That Kennedy's accounts were finally accepted can be assumed, since he was named again to direct the 1860 Census.

Francis Walker's tenure with the 1880 Census found him presiding over a "volunteer" work force when appropriations were held up and he himself advanced $4889.97 of his "own private funds in liquidation of the accounts," an amount he would be willing to consider his "personal contribution to the success of a great public work" should Congress fail to reimburse him.

A consultant to the 1880 Census reported that from Census Day "until they got through, the telegrams fell like hail on the Superintendent's table and the letters came by the thousand. Thousands of growls and queries came in. If your enumeration of a town does not seem enough the people attack you. If you give a town too many because they really had more than estimated, another town attacks you. So that this period of the census is a time of great labor and little peace."

Robert P. Porter, Superintendent of the 1890 Census, wrote plaintively in September 1891 that he had been "pilloried by patriotic guessers because the actual count fell a couple of million short of their estimates. Harassed on the one side by pressure for employment, and on the other by unreasoning and often-times ignorant and malicious criticism, importuned at all times by well-meaning specialists anxious to extend their particular inquiries without regard to other work, together with the labor and vexation that attend the placing and handling of 60,000 persons (for that number took part in one form or another in the 1890 Census), the Superintendent of the United States Census is likely to experience much hostility during the brief term of his decennial public appearance."

Porter's troubles worsened and in 1892 a special investigation of the Census Office was ordered by the House because it had been "charged through the columns of the public journals and elsewhere that the Census Bureau had been wrongfully conducted under Superintendent Porter." That investigation lasted almost a year and though the Committee Report cleared Porter, a strong dissent for the minority was filed by Congressman Fithian.

The frustration of attempts to launch a mid-decade census is far from new. The need for more frequent data was suggested before 1850. Walker suggested a mid-decade census in 1871 and Ulysses Grant requested one in his Fourth Annual Message noting that "Such a census, coming, as it would, in the last year of the first century of our national existence, would furnish a noble monument of the progress of the United States during that century." He repeated the request in his Fifth Annual Message, adding that a regular census every five years was needed because "the results of a decennial census are necessarily unreliable as a basis for estimates for the latter years of a period." And in 1980 the same argument was being advanced unsuccessfully.

Finally, the recent tumult surrounding the 1980 Census has raised the question of whether any census can ever be perfect. This too has precedent. Writer Daniel wrote in 1891 that "in the nature of things, the enumeration of the population of a country can only be an approximation, largely guessed at. Mathematical exactness is impossible." Even the Founding Fathers may have recognized this, judging from the language used when the census was first considered. On July 10, 1787, Edmund Randolph presented an amendment to the report of the Committee of Five "that in order to ascertain the alterations in the population & wealth of the several States, the Legislature should be required to cause a census, and estimate to be taken within one year after its first meeting." This statement may suggest that a census was itself regarded as an estimate.

As to who should be in charge, there are many who would agree with Samuel Donaldson of the 1880 Census, who testified before Congress "that if the Anglo-Saxon race shall be able in the next ten years to produce a man with sufficient physical and mental capacity to stand the racket of taking the next census, I shall be amazed."

wfs update

Carl Haub, PRB Staff Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 61 countries, will appear in INTERCOM as results become available.

Copies of the WFS Country Reports may be obtained from the World Fertility Survey, 428 Prinses Beatrixaan, 2770 AZ Voorburg, Netherlands.

Czechoslovakia

Czechoslovakia, an Eastern European nation of about 15.4 million population, has recently completed its World Fertility Survey and the results of the 1977 study have been published by the Federal Statistical Office. The country's population is composed of Czechs (65 percent), Slovaks (30 percent), and a number of other nationalities such as Hungarians, Poles, Germans, Ukrainians, along with about 250,000 gypsies, the fastest growing minority.

Czechoslovakia's recent demographic history is similar to that of other European nations. Fertility measures have been falling rather steadily since the middle 1950s. In the late 1960s (coincidental with the fall of the moderate Dubcek government), Czechoslovakia flirted with below-replacement fertility, but the 1979 total fertility rate (TFR) stood at 2.3 children per woman after rising briefly to 2.5 in the middle 1970s. It is perhaps difficult to classify the government as officially pronatalist since most socialist countries must espouse the Leninist principle that it is a mother's right to choose her family size, but the government has instituted a number of measures which hardly discourage childbearing. While contraceptives are available and abortion applications are often approved, the government also pays out child allowances and there is paid maternity leave. Nonetheless, fertility trends in the late 1970s have been measurably downward.

The 1977 Fertility Survey interviewed 3,041 married women 18-44 living in their first marriage. The survey reports that 84 percent of the women said that they planned their family size before marriage. But the survey results also indicate that knowledge of contraception was surprisingly low throughout the country. Only about one-third of the women living in towns reported that they were fully informed about family planning and only about one in five in the rural areas. Even if those reporting that they were "partly informed" are added, more than half of the women appear to have little contraceptive knowledge, although the report notes that some of that low figure may be due to misinterpretation of the question. As far as methods used are concerned, withdrawal was by far the most often mentioned, with the IUD second. The survey notes that heavy reliance on traditional methods undoubtedly results in many unwanted pregnancies.

When questioned as to the number of unwanted births, moderately large proportions of women indicated that some of their childbearing was unwanted. Overall, about 30 percent of the births to the women in the sample were undesired. If these women had been able to realize their fertility intentions, it is quite possible that the country would have experienced below-replacement-level fertility for many years.

On the average, women in Czechoslovakia said that they thought that 2.5 children would be an "ideal" number in their country and that they expected 2.4. In the total sample, 29.2 percent of the women 20-24 did not want another birth, 40 percent of those 30-34 did not and 69.2 percent of those 40-44 did not. When asked what would be necessary to change their minds, increased huband's income and better housing conditions were the reasons given most frequently. When asked what they thought was the most effective measure in the country to increase fertility, two-thirds of the sample answered prolongation of maternity leave.

Although Czechoslovakia's present total fertility rate and the women's expected number of children are quite similar at present, it remains to be seen whether or not the country can maintain above-replacement fertility. The current short-term trend in the total fertility rate cannot be encouraging to the government. Moreover, the fact that fertility is low in a country where there is much room for improvement in family planning education and traditional methods are relied upon bodes ill for any pronatalist policies. In neighboring Hungary, efforts to maintain a TFR of 2.3 have not been successful; that country's 1979 TFR has been reported to be 2.0, below the replacement level.

The Czechoslovak Fertility Survey concludes with the note that it is the government's intention to assure that families are able to have as many children as they desire and still live comfortably. The goal is not "hasty and disproportionate" population growth. Although the report points out that pronatalist measures were somewhat successful in the early 1970s, more recent evidence indicates that that success was temporary.

grants/contracts

• University of North Carolina, Chapel Hill, School of Public Health: **Comparative Study of Two Methods of Natural Family Planning**, J.R. Abernathy, investigator. This project is part of a broader program administered by the Carolina Population Center. The proposal requests a continuation of research support in the following four areas: research development and coordination, publication services, library and reference services, and demographic and technical support. (Funding from NICHD.)

• University of North Carolina, Chapel Hill, School of Medicine: **Prospective Study of the Effects of Tubal Sterilization on Menstruation**, G.S. Berger, investigator. This project is part of a broader program administered by the Carolina Population Center. The proposal requests a continuation of research services support in four areas encompassed in the existing program, including research development and coordination, library and reference services, demographic and technical support, and publication services. (Funding NICHD.)

The UN Publishes a Treasure Trove of Data

The United Nations Statistical Office has a new year's bonus for demographers and population researchers, the *Historical Supplement* to the *Demographic Yearbook*, issued to commemorate the 30th anniversary of the series. This 1,171-page volume represents the culmination of decades of detailed data collection efforts by the Statistical Office. Data are presented for the period 1948-1978, in many cases by single years where appropriate and available. In some cases, United Nations estimates are shown where the country was not able to supply statistics (See the June 1980 issue of *Intercom* for editor Virginia Josephian's detailed description of the data collection process). The *Supplement* represents what is undoubtedly the most comprehensive presentation of data for so many countries ever available anywhere.

Common answers to uncommon questions: how many males aged 20-24 were counted in urban aras of India in the March 1961 Census? 4,247,157. In the April 1971 Census? 5,727,100. How many females 20-24 on Norfolk Island in the June 1954 Census? 22. Although the last year shown for the data is 1978, many of the countries, particularly developed ones, can be easily updated through 1979 for population, birth, death, and infant mortality rates by using the Statistical Office's quarterly *Population and Vital Statistics Report* or the United Nation's *Monthly Bulletin of Statistics*. It is even possible to construct a longer time series for many countries by using the tables in the first edition of the *Demographic Yearbook*, the 1948 edition. That edition contained included tables for the period 1932 to 1947.

Users are cautioned that the Introduction, technical notes, description of tables, and footnotes are required reading before drawing conclusions about a demographic trend in a particular country. This is, of course, particularly the case for developing countries, but all definitions and footnotes should be consulted as a matter of course. For example, both Denmark and Switzerland took censuses in 1970 and reported that their urban populations comprised 66.9 and 57.6 percent of their total populations, respectively. Hence, Denmark was "more urban." But the detailed notes to Table 2 tell us that, in 1970, Denmark considered "agglomerations of 200 or more inhabitants" as urban, while Switzerland defined it as "communes of 10,000 or more inhabitants, including suburbs." Based on this information alone, it would seem as if Switzerland was the more "urban" of the two, despite the lower percentage, since a Swiss resident had to live in or near a town of 10,000 or more to be counted as an urban dweller, while a Dane only had to live in a settlement of 200 or more. Further, looking only at Table 2, Denmark's urban population jumped from 45.5 percent at the 1965 Census to the 66.9 figure in 1970. (In fact, it was higher in 1960 than it was in 1965.) This increase, however, did not result from any mass movement of Danes to the cities, but from a change in definition; in 1965, the urban populations were defined as "provincial capitals and capital city." Definitions, definitions....

Thus, this new volume represents a milestone in the collection of demographic data and provides a wealth of raw data for population researchers to use as a starting point for their investigations. A detailed description of the content of the 12 tables is as follows:

Table 1: (211 countries or areas.) Mid-year population, live births, deaths, infant deaths and rates, and rates of natural increase

Table 2: (204 countries or areas.) Total population for each census, by sex and annual rates of increase, urban population and percent urban.

Table 3: (total by age and sex for 188 countries, urban/rural for 128.) Population by age and sex and by urban/rural residence; age groups are under 1, 1-5, 5-9 ... and 85+ where available

Table 4: Child-woman ratios (203 countries or areas.) General fertility rates (201 countries or areas.) Gross and net reproduction rates (119 countries or areas.)

Table 5: (140 countries or areas, sex of child for 92.) Live births by age of mother (age groups under 15, 15-19 ... 50+) and sex of child.

Table 6: (122 countries or areas.) Live-birth rates specific for age of mother (age groups under 20, 20-24 ... 45+).

Table 7: Female population by age and number of children ever born alive (for 139 countries or areas) and by number of children still living (for 64 countries.)

Table 8: (63 countries or areas.) Expectation of life by sex at specified ages (0, 1, 5, 15, and 65).

Table 9: (158 countries or areas.) Death by age and sex (age groups under 1, 1-4 ... 85+).

Table 10: (96 countries or areas.) Death rates specific for age and sex (age groups under 1, 1-4, 5-9 ... 85+.)

Table 11: Selected derived measures of nuptiality and divorce. Percent of population ever married by age and sex (Age groups 15-19, 20-24, 45-49) (170 countries or areas). Average annual marriage rate by sex (123 countries or areas). Average annual divorce rate (95 countries or areas).

Table 12: (164 countries or areas.) Population by marital status, age and sex (marital status, single, married, widowed, divorced, unknown) (age groups 15+, under 15, 15-19 ... 75+).

As might be expected, the data available for developing countries decrease as the level of detail of each table increases. The diminished number of countries reflected above generally reflect that the data are published for countries of Europe, North America, Australia, New Zealand, Japan, and the USSR. In some cases in developing countries, data are not available for the country as a whole, but may be for a substantial area or particular ethnic group. Thus, for example, while reliable vital statistics are not available for Sierra Leone, they are available for the capital, Freetown, and are shown in roman-face type to indicate reliability.

The United Nations Publications Sales No. for the *Historical Supplement to the Demographic Yearbook* is E/F.79.XIII.8 and the prices are $48.00 for the clothbound version and $42.00 for the paperbound. Inquiries should be directed to Publishing Service, United Nations, New York, N.Y. 10017. As is the customary practice of the *Demographic Yearbook*, all text appears in both French and English.

"Overpopulation will exacerbate problems to the breaking point. Figures tell us there already are more people on earth than we need to move even the heaviest piano."
—Woody Allen

world food news

The state of world food and agriculture in late 1980 has deteriorated to the point that, according to the FAO, a situation of global alert exists, with the possibility of grave shortages ahead.

In the *State of Food and Agriculture 1980,* a report to the current session of the governing FAO Council which met in Rome early this month, the Organization reports only "marginal" increases in world food and agricultural production during the year. It also said that per capita output declined for the second straight year. While improvements occurred in some developing regions, the situation in Africa remained "extremely grave."

"Indeed," says the report, "no assessment of the state of food and agriculture written in the last quarter of 1980 can ignore the plight of Africa where more than a score of sub-Saharan countries are suffering from drought conditions, made worse in some instances by the presence of large numbers of refugees and displaced persons. Their situation has seriously deteriorated in the last few months."

The report emphasizes the precariousness of the world cereal situation as a result of bad weather in several major grain producing and exporting countries in both North and South. Since import needs of developing countries are expected to increase again, cereal stocks will have to be drawn down to levels which are "considerably below the margin of safety needed for world food security." At the same time prices, especially for corn, continue to rise.

Moreover, the report says, food production in some food importing developing countries is failing to keep pace with growing populations, leading to an increased dependence on world markets, especially in cereals. "it is, therefore, critically important that cereal production be significantly increased in 1981 to meet increased demand and to replenish stocks," it concluded.

The report warns that recent experience has shown the "vulnerability" of cereal production to bad weather conditions even in developed countries, and that the increasing dependence on cereals by the developing nations, together with the lack of an internationally coordinated system of national cereal stocks, "are making the world more prone to a food crisis."

Noting the link between world agriculture and progress in the economy as a whole, the report says the recent slowdown in world economic growth stemmed partly from the poor performance of the agricultural sector, especially in many non-oil exporting Third World countries. If the food and agricultural sector in these countries could be revived, it would serve as "a powerful stimulus" to the satisfactory growth of their respective economies.

Developments in world food security are not reassuring, it is noted. FAO's Global Information and Early Warning System on Food and Agriculture listed 27 countries, mostly African, which were experiencing abnormal food shortages, compared to 22 countries at the same time last year. In sub-Saharan Africa alone, more than 150 million people are affected. And international food aid goals, such as the International Emergency Food Reserve, have not met their targets.

Analyzing world food and agricultural production this year, the report says that both were expected to increase by approximately 0.2 percent as against a world population growth of about 1.8 percent, repeating the unsatisfactory results of 1979 when total food production rose by only 0.5 percent and agricultural output by 0.6 percent. The rate remains well below the target growth rate of 4 percent yearly.

In some regions, the results were more encouraging, it was noted. Thanks to a good monsoon, food production in the Far East was expected to increase by over 3 percent in 1980. Food output in most countries of the region was said to be good except in Democratic Kampuchea (Cambodia).

Latin America was expected to have an "impressive increase" in production of over 4 percent, accounted for largely by Argentina and Brazil, while the Near East also recovered satisfactorily from the poor crops of 1979, with an improvement in cereal production for most of the region.

In Africa, however, the increase in food and agricultural output was forecast to increase by only 2 percent in 1980, compared to a population growth of almost 3 percent. This means that per capita output would decline for the second consecutive year and for the third time in the past five years.

The report adds: "If these estimates are confirmed, the already precarious food situation of 1979 in Africa will have further deteriorated in 1980. The plight of numerous sub-Saharan countries is a testimony to this extremely grave situation."

In the developed countries as a whole, food and agricultural production was likely to be more than 1 percent lower than last year. In North America and Oceania, total production was expected to decline largely because of droughts, though production was also affected in Europe and the USSR which generally had wetter than normal weather.

World cereal production, mainly as regards coarse grains, was expected to drop in 1980 for the second straight year, raising serious problems of supply and demand and boosting international prices.

World fish production was anticipated to expand by about 1 percent, much of it in fish used to make oil and meal and with little change in fish used for human consumption.

Vital Statistics Update

The 12-month period ending with September 1980 saw a continuing rise in the U.S. crude birth rate, to 16.1 births per 1,000 population. This rate compares to 15.6 for the 12-month period ending with September 1979. During September 161,000 persons were added to the population, bringing the Sept. 30, 1980 U.S. population to 227,795,000 including an estimate for net legal civilian immigration. This amount of growth would result in a U.S. population passing the 230 million mark by about October 1981.

The infant mortality rate continued its downward trend, to 12.7 deaths to infants less than one year of age per 1,000 live births.

Provisional U.S. Vital Statistics: September 1980

	12 months ending with August					
	Number		Rate			
Item	1980	1979	1980	1979	1978	1977
Live births	3,559,000	3,418,000	16.1	15.6	15.2	15.3
Deaths	1,966,000	1,894,000	8.9	8.6	8.9	8.8
Natural increase	1,593,000	1,524,000	7.2	7.0	6.3	6.5
Marriages	2,404,000	2,332,000	10.8	10.6	10.4	10.1
Divorces	1,180,000	1,154,000	5.3	5.3	5.2	5.0
Infant deaths	45,300	44,800	12.7	13.1	13.8	14.3
Population base (in millions)	...	...	221.7	219.4	217.6	215.9

Source. Monthly Vital Statistics Report (Vol. 29, No. 9), from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Av., NW, Washington, DC 20036.

BASTARDY AND ITS COMPARATIVE HISTORY, edited by Peter Laslett, Karla Oosterveen, and Richard M. Smith. Cambridge, Mass.: Harvard University Press, 1980. 431 pp. $35.00; ISBN 0-674-06338-4. LC 79-27692.

This volume is a comprehensive historical and sociological comparison of illegitimacy in Britain, Western Europe, North America, Jamaica, and Japan. Family reconstitution studies in hundreds of local communities are used as sources to examine bastardy from the sixteenth through the nineteenth centuries. The findings reveal temporal and regional regularities in illegitimacy patterns, and illustrate the relationship between marital and nonmarital fertility. The authors indicate evidence of genealogical connections between illegitimacy prone individuals and theorize that the disposition towards sexual nonconformism is transmitted to offspring through the process of successive socialization. They conclude, however, that the study of the history of bastardy compels a thorough analysis of social structure, past and present, in order to be more definite about the characteristics of the "bastardy prone sub-society." This volume is first in the new series, Studies in Social and Demographic History by the Cambridge Group for the History of Population and Social Structure. It is a significant contribution and will interest family historians, anthropologists, historical demographers, and all scholars concerned with this area of human behavior.—*Leslie Curtin*

NEW TITLES ON THE ELDERLY

QUALITY OF LIFE IN OLDER PERSONS: Meaning and Measurement, by Linda K. George and Lucille B. Bearon. NY: Human Sciences Press, 1980. 238 pp. $14.95. ISBN 0-87705-488-6. LC 80-13645.

A concise reference work which documents the "state of the art" of measuring life quality in terms useful for gerontological research, planning, and practice.

THE BLACK AGED IN THE UNITED STATES: An Annotated Bibliography, by Lenwood G. Davis. Westport, CT: Greenwood Press, 1980. 200 pp. $22.50. ISBN 0-313-22560-5. LC 80-1193.

This annotated bibliography provides comprehensive access to accurate and reliable information about the problems, aspirations, and accomplishments of a large, distinct, and often ignored part of the elderly population.

SECOND CONFERENCE ON THE EPIDEMIOLOGY OF AGING: Proceedings of the Second Conference, March 28-29, 1977, edited by Suzanne G. Haynes, and Manning Feinleib. Bethesda, MD: National Institutes of Health, 1980. 387 pp. Free. NIH Publication No. 80-969. Single free copies available from: National Institute on Aging, National Institutes of Health, Bethesda, MD 20205.

SUPERMADRE: Women in Politics in Latin America, by Elsa M. Chaney. Austin, Texas: University of Texas Press, 1979. Latin American Monographs. No. 50. 210 pp. $14.95. ISBN 0-292-77554-7. LC 79-620012.

In this extremely readable study, Chaney analyzes both the extent and the intensity of women's participation in Latin American politics. Drawing from existing research as well as her own survey of politically active women in Peru and Chile, she found that the contributions of women have been limited to the lower echelons of power in the fields of health, education and social services—all extensions of the nurturing mother role. Occasionally, entry into the higher levels of decision-making has occurred during periods of national crisis, but with a return to normalcy, women characteristically retreat back behind the boundaries of traditional female behavior. Women who have deviated from this model by demanding greater power and recognition have been harshly treated by women as well as men, and it is not clear that their sacrifices have opened the way for more active participation by future generations. Despite substantial improvements in educational levels and labor force participation that have accompanied economic development in Latin America, Chaney found that women's aspirations and their chosen fields of specialization have remained remarkably conventional, although they are not necessarily satisfied with their lack of power. She does not see the development of a women's movement along the lines of the U.S. model; indeed, most of the Latin American women interviewed seemed to agree that such a confrontational approach would be counterproductive. Chaney does see promise for the improvement of women's status if they strive to upgrade their role within the fields where their participation is already accepted, i.e. through a more politically astute expression of the *supermadre* role. —*Mary Kent*

POPULATION POLICY: Research Priorities in the Developing World, prepared by Carmen A. Miro and Joseph E. Potter. London: Frances Pinter, 1980. 194 pp. ISBN 0-90-3804-78-6.

In 1976 with the financial support of nine governmental, inter-governmental, and nongovernmental organizations, a major research endeavor—The International Review Group of Social Science Research on Population Development (IRG)—was initiated. Its principal objective was to make informed and critical recommendations to further the implementation of investigations to facilitate the formulation of population policies in developing countries. Under the direction of Carmen Miro, the IRG researchers and various consultants prepared regional and topical reviews about the status of social science research as it relates to population and development issues. This volume summarizes the major findings and recommendations of the IRG. It is organized into three major sections. The first provides regional reviews (Africa South of the Sahara, The Arab countries, Latin America, etc.) that examine the basic socioeconomic and demographic characteristics, policy-relevant population issues, and the status of population research in each major developing area. The second section discusses the state of knowledge and specific research recommendations concerning the various demographic variables (mortality, fertility, internal migration, etc.). The last section gives an overview of institutional and human resources available for conducting research on these topics within the developing world, and suggests mechanisms to strengthen these resources. A listing of the principal background documents used in preparation of the report and how they may be obtained is included. Few other sources present such a comprehensive and well informed treatment of these important issues. —*Sergio Diaz-Briquets*

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Year of the Disabled

One out of Every 10 People on Earth . . .

by Arthur Haupt

No one knows how many disabled people there are in the world. The working estimate used by the UN is 450 million people—roughly twice the 1980 population of the U.S.

About one out of every 10 people on earth has a mental or physical impairment that prevents his or her full participation in society. The great majority of these disabled live in the less developed countries (LDCs), whose populations appear to have a higher proportion of disabled than do the more developed countries—the frequency of disability increases along with poverty.

Three-quarters of the world's people with disabilities never receive any treatment or rehabilitation during their lives.

With these problems in mind, the UN General Assembly in 1976 proclaimed 1981 as the International Year of Disabled Persons. Taking "full particapation and equality" as its keynote theme, the IYDP was launched in order to improve disabled people's primary health care and rehabilitation, help prevent disabilities, and increase public understanding of the problems involved.

A Definition and Some Guarded Statistics

Who are the disabled? Nearly everyone has (or will have) at least some slight disability, be it high blood pressure or vision less than 20/20. But the UN's definition is any person "unable to ensure himself or herself, wholly or partly, the necessities of a normal individual and/or social life, as a result of a deficiency, either congenital or not, in his or her physical or mental capabilities."

There are a number of categories of these disabilities:

Congenital and developmental disturbances. Genetic and nongenetic congenital disorders and development disabilities such as the reading impairment, dyslexia.

Disease-caused disabilities. Impairments resulting from communicable diseases such as malaria, tuberculosis, etc., and noncommunicable diseases such as heart disease and arthritis.

Mental and emotional disorders. Chronic nervous disorder and serious emotional disturbance; alcoholism and drug abuse.

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INTERCOM

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PRB MEMBERSHIP

In addition to INTERCOM, PRB members receive six in-depth POPULATION BULLETINS annually, the widely used WORLD POPULATION DATA SHEET wall chart, and selected special publications. Educator, library, student, and institutional members also receive INTERCHANGE, a population education newsletter, and ready-to-use classroom materials four times during the year.

Annual memberships are as follows:

	U.S.	All other countries
Individual	$ 25	$ 32.50
All students	5	6.50
Educator—primary/secondary	10	13.00
Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

The Surrogate Mother Business

To test-tube babies and anonymous artificial insemination can be added a new area of controversy: surrogate motherhood. Couples in which the wife is infertile arrange for a surrogate mother to bear the husband's child, by artifical insemination. After giving birth to the child, the surrogate mother legally terminates her parental rights and the couple adopts the baby.

Last November, an 8 pound, 10 ounce, boy was born to "Elizabeth Kane" (not her real name) to Louisville, Ky. Her pregnancy was arranged by Surrogate Parenting Associates, Inc., a firm in the business of matching surrogate mothers and infertile couples. Kane received an undisclosed fee (reportedly several thousand dollars) for bearing the child, which was then privately adopted by the couple.

In 26 states, adoptions must go through a public agency and no money can change hands between natural mother and adoptive parents. But in Kentucky, private adoptions and fees are legal. In December, an anonymous surrogate mother gave birth to a baby girl in Knoxville, Tenn. In this case, sperm from the husband was used to impregnate the infertile wife's sister, and no money changed hands.

While bearing children through surrogates has probably always been practiced on an infrequent basis, the two cases could be the start of surrogate motherhood as an institution, like artificial insemination. Surrogate Parenting Associates says that it is now overseeing "over 100" other surrogate pregnancies.

The new practice has already aroused controversy. It has been denounced as adultery, though proponents argue that it is logically the female counterpart of artificial insemination. If a husband is infertile, the wife can be impregnated with donor semen, they argue; why, then, is it wrong to use a surrogate mother when the wife is infertile? Both these methods enable a couple to at least partially fulfill their desire to have a baby related to them by blood.

Surrogate motherhood is, however, somewhat more personal than anonymous sperm donation. And there are many questions—including what happens in the case of birth defects, or when the surrogate mother decides to break the contract and keep the baby—which will very probably end up in the courts.

Announcement

Because of steeply rising postage costs, PRB has reluctantly raised dues for memberships outside the U.S. (see column at left for the new rates). U.S. memberships are not affected.

Costs for PRB mail orders have also been adjusted in some cases, as follows:

U.S. orders
Orders of $5.00 and less must be paid in advance. Add 50 cents for postage and handling (unless otherwise specified).

Prepaid orders of more than $5.00 are shipped without postage charge. If an order must be billed, a postage charge will be included in the bill.

Orders mailed outside the U.S.
Add 25 percent to the cost of publications ordered to cover postage and handling.

Call for Population and Resource 'Foresight'

Conference Urges U.S. to Stabilize Population Growth

Leaders of 60 environmental and population groups have called on the U.S. to develop a national population policy and a working capacity to anticipate national and international problems caused by population growth, resource depletion, and environmental degradation.

These recommendations were issued at the end of the Leadership Conference on Population, Resources, and Environment that met in Washington Jan. 23-24. The meeting had particular significance because it concentrated on the interrelatedness of the three areas, rather than concentrating on each one separately; and because of the large number and collective influence of the 60 organizations involved—taken together, they have memberships totaling 6.5 million, with corresponding potential for influencing policymakers.

"Current trends of rapid population growth, wasteful resource consumption, and abuse of the environment seriously endanger the global base for all human activity," the Conference's final statement said. "We believe this situation contitutes nothing less than a threat to U.S. national security and to the future well-being of the American people."

Consequently, the Conference called for improvement in the nation's foresight to identify and project future interactions of population, resource consumption, and environmental abuse in the world. It called upon Congress to declare a national policy of coordinated planning toward the goal of population stabilization; create an Office of Population Policy within the Executive Branch to coordinate the federal government's various population-related activities; support increased funding levels for U.S. and foreign population/family planning programs, population education, and population research; revise immigration laws to be "equitable and enforceable" and provide the necessary funds for their enforcement. The conference also called upon the President to declare a national policy of population stabilization, as well as strengthen the existing Office of the Coordinator of Population Affairs within the State Department.

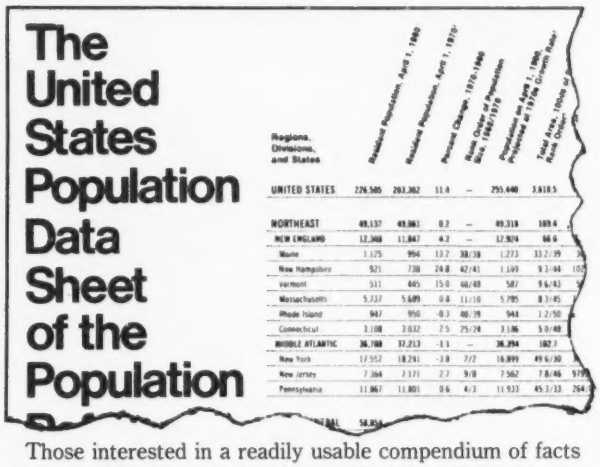
The Conference's final statement was hammered out in two days of sessions at the Shoreham Americana Hotel, where specialists worked on and refined individual policy segments. In addition, participants heard a number of speakers, including keynote speaker and conference chairman Russell W. Peterson.

"We are asking a finite and fragile planet to support too many people," Peterson told the Conference. "Population growth underlies almost every aspect of resource overexploitation and environmental degradation. If we do not want to accept the projections that lead to catastrophe, we must bring human population into balance with the carrying capacity of the earth."

He reminded his listeners of the proverbial emperor who preserved his own peace of mind by killing messengers who brought bad news—a practice, he said, that had come down (in milder form) to the present day, with presidential commission report after report being ignored, filed away, or repudiated. He expressed concern that the same fate might befall the important Global 2000 Report issued by the Council on Environmental Quality (see INTERCOM, August 1980). "It is time to insist that—whether we like the news or not—we listen," he said. And "If hundreds of thousands of us go to see our modern emperors, they cannot ignore our message. And when they face the bad news, then they can listen to our good news; by stabilizing the world population and managing its resources wisely, we *can* build a sustainable society—the key to humankind's survival."

Peterson is president of the National Audubon Society, which organized the Conference in association with some 60 other organizations in the population, environmental, and civic fields, including the Population Reference Bureau, Inc.

U.S. Data, from Maine to Hawaii . . .



Those interested in a readily usable compendium of facts from the 1980 Census will welcome *The United States Population Data Sheet,* just published by PRB. A special PRB publication, it contains a unique collection of vital, demographic, and economic statistics for each of the 50 states, four regions, and nine divisions, and the District of Columbia, displayed in an attractive red, white, and blue format 18½ x 24 inches suitable for wall display in home, office, and school.

Included are such statistics as the official 1980 Census counts for every state, as well as each state's birth and death rates, per capita income, migration, congressional seats, population rank, density, and ethnic composition.

The new Data Sheet, first of an annual series, was prepared by PRB demographer Carl Haub. Single copies are $1.00; 2-49 copies, 75¢ each; 50 or more copies, 50 ¢ each. Send orders with remittance to: PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013. For orders of $5.00 and less, add 50¢ for postage and handling.

And a Population Bill Is Introduced

Rep. Richard L. Ottinger (D-N.Y.) has introduced a bill calling for creation of a national population growth policy, as well as establishment of an Executive level office to implement that policy.

Population policy bills have been introduced in the past without result. It is expected, however, that congressional hearings will be held on the new Ottinger bill later this year.

Continued on next page

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And whether or not the Ottinger bill becomes law, such hearings would give the greatest congressional airing to population issues since the days of the old Select Committee on Population (born 1977-died 1979).

The new bill (H.R. 907) calls for the federal government to have "the responsibility for coordinated planning for population change and declares as a national goal eventual population stabilization." Such stabilization is to be by voluntary means, and the bill does not set any specific level at which the population should be stabilized.

The bill also calls for the federal government to develop an improved foresight capability for population trends and projections, and to prepare an annual report to the President that sets forth the latest knowledge of national and global population, resource, and environmental trends and their impact on the U.S. economy and national security—a sort of annual *Global 2000* report.

To carry out these aims, the bill establishes an Office of Population Policy in the Executive Branch, with a modest budget that starts at $800,000 for the first fiscal year, and is not to exceed $1,600,000 a year.

The Ottinger bill has been introduced as an amendment to the Census Act. As such, the bill comes under the jurisdiction of the Census and Population Subcommittee (Rep. Robert Garcia, D-N.Y., chairman) of the Post Office and Civil Service Committee. Hearings are expected to begin in March, perhaps preceded by a briefing on *Global 2000*, and followed by a series of regional hearings on problems related to population growth and demographic change.

"The *Global 2000* report reminds us of the scale and urgency of the problems we have created for ourselves," Ottinger said, speaking to the Leadership Conference on Population, Resources, and Environment in Washington. "Sadly, as the gravity of these problems grows, so does the reluctance of the Administration and Congress to face them with the necessary diligence and energy.... This reluctance flies in the face of the U.S. commitment to the 1974 Bucharest [World Population] Conference, which calls on all nations to adopt such policies.

"I appreciate that some of you may have reservations with one aspect or another of my legislation. I hope you will lend your voices to improving the bill when it reaches the stage of committee hearings.... Without the whole hearted support of the population and environmental communities, I hardly expect to persuade this Congress and Administration to take the wise, prudent, and, may I add, conservative course."

Return of the Draft? Changing demographics may force the return of military conscription, outgoing Defense Secretary Harold Brown warns. Defending the present all-volunteer armed forces, he told reporters that the present system would probably continue to be satisfactory except for the coming shortage of 18-year-old males expected in the mid-1980s. The incoming Reagan administration, also supports the all-volunteer policy, but the Defense Dept. will be faced with an ebbing pool of 18-year-olds which will be 18.6 percent smaller in 1990 than it was in 1980.

Award competition: The Association for Voluntary Sterilization, Inc., has announced a competition for manuscripts based on survey research dealing with the topic of voluntary sterilization. AVS wishes to promote survey research into the psychosocial aspects of the technique, in which recipients of voluntary sterilization would be subjects of the research. *Cash awards:* first prize, $1,000; second prize: $750; third prize, $500. (In addition, the first-prize recipient will receive round-trip airfare and two nights' lodging to attend a regional or national meeting, if the paper is accepted for presentation at a refereed section meeting.) *Deadline for submission*: Nov. 15, 1981. *For further details, contact:* Betty Lanting Gonzales, Deputy Director for National Programs, AVS, 708 Third Ave., New York, N.Y. 10017.

Is the 'Frost Belt' Doomed?

At the same time that the final 1980 Census counts were showing a significant shift of U.S. population to the Sun Belt, a Presidential commission released a controversial report arguing that the decline of the northern Frost Belt cities is inevitable and that federal programs should aid the ongoing, apparently inevitable migration from North to South and West.

The report, "Urban America in the Eighties," was the proposal of one panel of the President's Commission for a National Agenda for the Eighties. Its release ignited a storm of controversy with northern mayors and urban officials taking vehement exception to its conclusion that federal attempts to revitalize and fund the northern cities are probably futile.

President Carter, receiving the Commission's whole report, said he disagreed substantially with the urban recommendations. And New York City's mayor Ed Koch's reaction was "unprintable," according to an aide.

The report, however, stresses the idea that "cities are not permanent." "Growth and decline are integral parts of the same dynamic process in urban life," it states, and adds that "there is a fundamental problem in attempting to halt the shrinkage of metropolitan areas."

According to the report, the decline of older U.S. cities is inevitable because "national deconcentration trends" have caused them to lose "much of their competitive edge." There was a time in the U.S. when cities existed because dense concentrations of people and heavy industry made for efficent production of essential goods and services. But revolutionary changes in production and communications have made that kind of city in some ways actually counterproductive.

Instead, a typical Sun Belt urban area can be spread out (as autos and trucks provide flexible, if fuel-thirsty, forms of transportation) and can provide production in brand-new facilities of "light" but important and lucrative items (e.g., computer chips), as well as services (the latter constituting a larger and larger part of the gross national product).

More specific points in the report include proposals for federal assistance in retraining and relocating poor people to

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Urban Overcrowding threatens Stability in LDCs

Ambassador Marshall Green is currently a consultant to the U.S. State Dept. on population issues, and a director of the Population Crisis Committee. He has also served as the first U.S. Coordinator of Population Affairs (1975-1979), the U.S. government's most senior official with central responsibility for developing and coordinating the implementation and evaluation of U.S. international population policies.

by Marshall Green

Among the most serious effects of high population growth rates in the developing world over the decades ahead is almost certain to be the way those growth rates will magnify and intensify other problems (such as frustrated development, racial and religious animosities, unemployment, and resource scarcities), producing enormous strains on existing political, social, and economic structures and on relations between nations.

Population pressures are thus likely to contribute to a more turbulent setting for the conduct of international relations, enhance the dangers of conflict and terrorism, and cause frustrations in the less developed countries (LDCs) exploitable by forces hostile to peace and development.

Nowhere is this process more likely to find its origins than in the dramatic movements of people from rural areas, often over-populated, to already crowded cities. The political implications of this situation are hard to estimate but are unquestionably far-reaching.

Some depict migrants to cities as the DPs (displaced persons) of a modernizing world, languishing in hopeless conditions, denied social services and mostly herded into shanty towns. Other observers take a less stark view, arguing that many of the migrants are seasonal workers and that the great majority of them will settle in with kinfolk who help ease the hardship and disorientation of life in the cities. Moreover, it may be at least the initial perception of some migrants to the cities that, bad as conditions there may be, they are better than conditions in the villages they left.

On balance, it is reasonable to conclude that, if the big LDC cities, already overcrowded, double or triple in population over the next two decades, as current projections indicate, the problem will take on far greater political dimensions. Teeming slums are likely forcing beds of frustration and alienation, especially on the part of young people living in appalling conditions within sight of highly visible wealth of the privileged few and aware of governmental corruption they increasingly resent.

Resentments may not be as strong and prevalent among the newly arrived migrants as among second or third generation migrants who have become "citified" and more conscious of what is denied them. People accommodate to poverty in rural areas in a way they do not in cities. In rural areas, poverty is best defined as the possession of little; in urban areas, as the nonpossession of much. Moreover, people in rural areas are widely scattered, but in cities they are massed, have power in sheer numbers, and are perhaps more amenable to manipulation by forces of extremism.

Former Under Secretary of State George Ball, called to Washington by President Carter to head an investigation of the current upheaval in Iran, concluded that "Iran was beset by three problems that are the common curse of Third World countries: demography, urbanization, and spendthrift and corrupt government."

Professor George Lenczowski of the University of California, writing in the Spring 1979 issue of *Foreign Affairs*, mentioned the exodus of Iran's rural population to urban centers, as producing "a new city proletariat, clustering in shantytown slums (especially in the south of Tehran), increasing by leaps and bounds, and providing typical 'cannon fodder' for any skilled agitator with a demogogic appeal."

One of the most telling explanations of Iran's revolutionary mood is to be found in the Dec. 5, 1979, Washington Post's interview of Marine Sergeant William Quarles, one of the first hostages to return from the U.S. Embassy in Tehran. Quarles said that his most poignant memory of Tehran was the extreme poverty of a largely illiterate population living in shanty towns and pup-tents within eyesight of the wealthy few dwelling mansions and new high-rise apartments. "I can understand why they want the Shah and the money back," he concluded.

A final reason for regarding mass migration from rural to urban areas as a fundamental threat to peace and stability is that the situation is so difficult to correct. Although China has banned migration to cities, the cities nonetheless are estimated to be growing by 2.8 percent to 3.8 pecent per year, two or three times the natural population growth rate of China as a whole. This also illustrates the great difficulties China faces in maintaining internal order and stability despite its extensive system of controls.

While visiting South Korea last year, I was told by Prime Minister Shin Hyon-Hwak that his greatest concerns were the overcrowding of cities, especially Seoul, and the danger of a business recession lasting more than two years. Seoul's rapidly growing population is of special concern to military planners since Seoul, with nearly one-quarter of South Korea's population, lies so close to North Korea.

Also last year, Imelda Marcos, the First Lady of the Philippines who is also Governor of Metro-Manila, told me that one of her government's major objectives is to lower migration rates to Manila. As we drove through the crowded streets of Manila, she mentioned incidentally that, of the 1,200,000 vehicles in the Philippines, over 950,000 are in greater Manila.

Improving living conditions in the cities, though fully justified on humanitarian, health, and other grounds, may nevertheless tend to attract even greater waves of urban migrants, which in turn would negate efforts to improve urban living conditions.

Clearly, slowing down growth in LDCs will entail accelerating efforts to lower fertility rates and to find more productive rural employment and other attractions to keep people in the rural areas. The record to date forbids indulgent speculation on how this is to be achieved, but I believe it must prominently involve strong central governments, more authority in the hands of villagers to run their own affairs, and incentives and rewards for those communities which do best in meeting government's goals, prominently including the lowering of fertility rates.

Continued from page 4

Sun Belt cities as well as programs to cushion the effects of a large loss of population in the declining northern cities. Says William McGill, chairman of the commission that produced the report and former president of Columbia University: "If there is anything we have attempted to do, it is to force the people who establish policy to make hard decisions on priorities. We are suggesting things typically not done because of short-term political perspectives."

Critics of the Commission's report argue that, declining or not, Frost Belt cities and states contain 45 percent of this country's population and a huge portion of its manufacturing and financial strength. Further, they question whether the Sun Belt cities, already burdened by inefficient transportation systems, rising crime rates, large numbers of illegal aliens, and increasing scarcity of water, are prepared for an influx of citizens from the North.

Mexico Census: 67 Million Now

The Mexican population continues to grow rapidly, according to preliminary figures of the 1980 National Census, which show a total of 67,295,826 inhabitants and a 3.3 percent annual growth rate between 1970 and 1980. Mexico has the largest Spanish-speaking population of any country and after Brazil is the second most populous country in Latin America. According to the new Mexican census, 42 percent of the population is less than 15 years old.

Nonetheless, Mexico's high rates of growth have shown a continuous decline since the beginning of the 1970s; perhaps due to the adoption in 1972 of a national family planning program. This decrease, which has already been reported in the World Fertility Survey (see INTERCOM, November/ December 1979), has become even more accentuated in recent years.

Meanwhile, the 1979 Mexico National Fertility and Mortality Survey indicates that Mexico's total fertility rate may have declined from almost 5.6 children per woman in 1976 to 4.6 in 1979. (These results were recently released by the International Program of Laboratories for Population Statistics [POPLAB] at the University of North Carolina at Chapel Hill.) If these new data hold up, it would mean that Mexico could achieve the goal of a 2.5 percent rate of natural increase set by President Lopez Portillo for the end of his presidential term in 1982.

Argentina: nearly 28 Million Now

Argentina has released the provisional results of the National Population and Housing Census, conducted on Sept. 30, 1980. The data show that the population of this South American country rose to 27,862,771 inhabitants, almost 4.5 million more than the number registered in the 1970 Census. This number represents an increase of 19.3 percent during the past 10 years.

Even though the population of the Federal District decreased 2.2 percent between 1970 and 1980, the Greater Buenos Aires area grew by 17 percent. Some 9,710,223 persons—nearly 35 percent of the country's total—reside in the Greater Buenos Aires area, making it the third largest urban concentration in Latin America, after Mexico City and Sao Paulo.

Panama: 1.8 Million Now

Between the first National Demographic Census in 1911 and the latest National Population and Housing Census conducted on May 11, 1980, the population of Panama increased nearly five-fold—from 336,742 to 1,830,175 persons, according to data recently released by Panama's Dept. of Statistics and Census.

The 1980 Census data also showed a total of 427,125 registered households.

Between 1970 and 1980 Panama's population increased by 402,093 people, or some 28 percent. But during that decade, the birth rate fell from 30.6 births per 1,000 population to 25.1, the Dept. reported.

Venezuela Starts Deportations

Now that the deadline date of Dec. 23, 1980, has passed, deportation proceedings have begun against foreigners—chiefly Colombians—who are living illegally in Venezuela.

In the first week of January 1981, 200 persons residing in Venezuela without proper documentation were deported, according to Foreign Minister Jose Alberto, who asserted that the repatriation was carried out "with the greatest respect for human rights." In the border city of Cucuta, Colombia, a "Campamento Bolivariano" of 700 tents has been erected to house the "indocumentados."

Though estimates indicate at least 2 million undocumented workers may be living in this country of 14 million (see INTERCOM, August 1980), only 350,000 foreigners registered with the Venezuelan government by the deadline.

Feeding the world: The Coming Challenge

"There are ominous signs that during the next several decades the world will face a growing shortage of cropland on which to produce its food," says Norman Borlaug, winner of the Nobel Peace Prize in 1970 for his work in developing the "Green Revolution." This coming shortage will be due to loss of topsoil and soil fertility, irrigation problems, and cropland being removed from agriculture. But the underlying reason is population growth—what Borlaug and his associates call the "human population monster."

As the world population is expected to double by early in the 21st century, that means that within the next half century, "world food production must be increased by at least as much as was achieved during the 12,000-year period from the beginning of agriculture up to 1975—just to maintain per capita food production at the inadequate 1975 level."

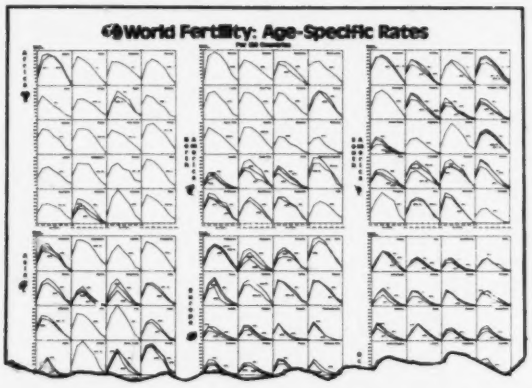
"This is a tremendous undertaking, and of vital importance to the future of civilization. Failure to cope with it will plunge the world into economic, social, and political chaos. If disaster is to be averted, much of the additional production in the next several decades must come from increased yields on land under cultivation in Third World nations, where yields are still low... [Moreover] this must be done promptly and in an orderly way if we are to meet growing needs without, at the same time, unnecessarily degrading the environment and crowding many species into extinction."

Borlaug, who is a PRB Trustee, currently serves as a consultant to the International Maize and Wheat Improvement Center (CIMMYT) in Mexico City, where he developed the crops that sparked the "Green Revolution." The comments by Borlaug and his associates appear in CIMMYT's new publication "The Human Population Monster."

Including Men in Family Planning: New Approaches

"Men are the forgotten sexual partner; nearly a half billion men have little or no access to birth control services and few contraceptive options. Yet by ignoring the interest men have in planning their families, society ends up perpetuating sexual stereotypes and hindering efforts to slow world population growth."

Yet men and women can share more of the responsibility for family planning, according to Bruce Stokes, author of the new *Worldwatch Paper*, "Men and Family Planning." "Men's involvement with birth control is initially constrained by human biology. It is women, not men, who get pregnant, and women's fertility may be easier to control than men's. But these practical constraints do not explain the limited and often negative role many men play in family planning."



PRB members are receiving this month a new special publication: *World Fertility: Age-Specific Rates for 120 Countries*, a 26½ x 22 inch three-color wall chart. This chart, produced by PRB in collaboration with the Center for Population Research, Georgetown University, presents in an attractive graphic format, age-specific fertility rates for 120 countries around the world. The rates represent the number of children that women in a specified age group have in a given year. Countries from all major regions—Africa, North America, South America, Asia, Europe, and Oceania—are represented. Whenever possible, rates from three dates are drawn: 1965, 1970, and the most recent date. The numerical data used to plot the graphs, as well as the sources from where the data were obtained, are displayed on the reverse side of the chart.

As the chart shows, age-specific fertility rates have been declining over time in many of these countries, both less developed and more developed. However, it can also be seen that the levels, extent, and timing of the decline tend to vary from region to region. By and large, the countries showing the smallest amount of change and the highest fertility levels are found in Africa and in an arch extending across the Arabian peninsula through Middle South Asia. Regions which had already attained low fertility levels such as Europe, North America, and Oceania generally show further declines over the past 15 years. Some countries in Southeast Asia and South America show rapid fertility declines and have now reached moderate fertility levels.

World Fertility: Age-Specific Rates for 120 Countries is another in a series of publications being produced by the Population Reference Bureau's Compilation and Analysis of Population Data project, under contract with the U.S. Agency for International Development.

Single copies of *World Fertility: Age-Specific Rates for 120 Countries* are available free from PRB. There is, however, a $1.00 handling and postage charge for mail orders. (Bulk order handling charges available upon request.) Send order and remittance to PRB, Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036

In fact, recent studies indicate that U.S. men overwhelmingly favor birth control and think that men and women should share responsibility for using it. Mexican men indicated they believed in limiting the number of their children. And the initial results of World Health Organization research in five Third World countries showed that men in a variety of social and cultural settings had a degree of interest in family planning greater than generally believed.

Moreover, male birth control methods are anything but obsolete. Until two decades ago, most couples used male contraceptive methods, if they used any at all. Of the more than 250 million people in the world currently using contraception, one-third still rely on male methods. Some 37 million men use condoms, about 35 million have had vasectomies, and millions more depend on withdrawal. By comparison, each of the major female methods has 50 to 65 million users worldwide.

Most of the people who rely on male contraception live in industrial countries, the study reports. One out of five Americans, one out of two Italians, and four out of five Japanese use a male method of birth control regularly. Yet the method used varies from country to country. In France and Italy, for example, withdrawal is second only to the pill in popularity. In Japan, 79 percent of married couples use condoms. In the United States, 10 percent rely on vasectomies.

"The number of couples using a male method of birth control is likely to increase in the years ahead," writes Stokes. "Condom sales in the United States grew from 300 million in 1975 to nearly 500 million in 1980. Recent studies suggest that as the members of the American postwar baby boom complete their families, at least 30 percent of the men will have vasectomies. And male sterilizations are becoming more popular in Great Britain, China, and India."

"In addition, the development of a male pill could increase men's use of birth control dramatically. Surveys of American men indicate that nearly half would consider using an oral contraceptive. In the last few years, great strides have been made in basic male biological research, though until tests are completed, prospects for a male pill remain uncertain. Promising early results suggest it may be possible to halt the production of sperm without the health problems associated with the female pill and without changing male sexual characteristics. If all goes well, it is technically feasible that a male pill will be available within two decades."

A few organized birth control programs are reaching out to men. In the early 1970's for example, nearly half the clients of mobile family planning teams in the Danfa region of Ghana were men. But if men are to play a more responsible role, they need more support and encouragement, writes Stokes. "A total of only $155 million was spent worldwide on all male and female reproductive and contraceptive research in 1979. Such paltry investments—which when adjusted for inflation are lower than in 1971—offer little chance of radical ad-

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vances in male birth control technology. In the same year, the U.S. Government provided only $750,000 for male birth control clinics out of a total family planning budget of $242 million, and even that is being dropped. While parity in funding is not necessary, greater support of male contraceptive programs would be a worthwhile investment of public funds."

"New male responsibility for family planning promises payoffs for both society and the individual," concludes Stokes, a researcher at the Worldwatch Institute in Washington, D.C. "Changing patterns of contraceptive use, new male birth control technologies and programs, and our growing understanding of men's interest in birth control all suggest that men can participate more actively in planning the births of their children. . . . This will create not only a new role for men in family planning, but also a new role for men in the family and in society."

Copies of *Worldwatch Paper 41*, "Men and Family Planning," are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

Populandia Now #4 After Bumping U.S.

On Feb. 5, 1981, Populandia moves into fourth place among the world's countries.

On that date, INTERCOM's mythical island nation in the South Pacific reaches a population of 226,515,414. That brings it to a greater total than the official 1980 U.S. Census count (226,504,825). And while the U.S. grows by "merely" 5,500 or so people a day (through births—minus deaths—and net legal immigration), Populandia continues to mushroom along, as each day brings another 203,700 newborn babies to its shores.

The only countries still with populations greater than Populandia's: China, India, and the USSR.

Populandia's ascendancy is remarkable considering the fact that none of its citizens is more than 3 years 1 month old. The verdant island, veteran readers will recall (see INTERCOM, June 1980 etc.), erupted out of the Pacific several years ago and was seized upon as the "ultimate" answer to world overcrowding. The august World League of countries chose it as the repository of all natural population increase and starting Jan. 1, 1978, Populandia began to receive all the babies born in the world who represented the excess of births over deaths. This did a great deal to limit population pressures on the world's countries, but Populandia must surely be starting to feel pressures of its own. With a land area of 160,000 square miles, Populandia's density is now up to 1,416 persons per square mile, which gives Populandia the seventh highest population density in the world, after Macao (46,500 per square mile), Hong Kong, Singapore, Malta, the Channel Islands, and Barbados.

demographer's page

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The Case of Iran:

Women, Population, and Development in Islam

by Jamshid Momeni

How much longer for a scrap of bread
have you to become a centenarian Haji's temporary wife,
to put up with rivals, a second, a third,
to suffer injustice and oppression. . . my Sister?

Arise from your abode, plunk out the root of injustice,
give relief to your grief-striken heart,
strive, strive for your freedom's heart,
to change the Law!

From the poem "To My Sister," by the Iranian poetess Forogh Farrukhzad (1934-1967)[1]

During the past decade or so, population experts have shown an increasing interest in the intricate relationships between economic variables and population, political, religious, and sex roles, and family structure variables. The Mid-Decade Worldwide Women's Conference in Copenhagen held in July 1980 continued the push for equal rights for women that had been voiced at the International Women's Year conference in Mexico City in 1975, and before then, at the 1974 World Population Conference in Bucharest. Equality of rights, however, has long been a human aspiration. Holy Books such as the Bible and the Koran not only give both sexes hope for salvation, but they teach that human rights are ordained by God or Allah.

This article will give a brief review of these issues as they apply to Iran today.

Legal Reforms

In accordance with the aspirations of women (well expressed in the poem of Forogh Farrukhzad cited above) and with the help of many enlightened religious leaders, both men and women, during the past few decades there have been many social and legal reforms relating to women and family law in the Islamic World. The most notable reforms are those of Tunisia, Iraq, and Iran. The reforms in Iraq and Iran are of special significance because these countries best represent the *Shiate* sect of Islam—Iran, whose population is 80-85 percent *Shiate* and Iraq with 50-60 percent *Shiate* population. The Iraqi law of Personal Status, which was promulgated in 1959, and its 1963 amendments

that are applied to *Sunnis* and *Shiates* alike, was regarded as a radical piece of legislation. The Iraqi law was not, however, considered as radical as the Tunisian law (which outlawed polygyny as early as 1956 and legalized abortion before 1967), and certainly not as "revolutionary" as the 1967 Iranian Family Protection Act, and its 1975 amendments.

This Act gave the Iranian women, at least legally, the most sweeping civil rights in the Islamic world. The Act, to a large extent, fulfilled the desires of many Iranian women such as Forogh Farrukhzad who called upon her sisters to change the law. It outlawed polygamy, one of the traditional and religious prerogatives of a Moslem man. However, this was done indirectly and rather carefully in order to avoid collision with the Islamic tenet (Koran permits as many as four permanent wives) by requiring the prospective polygamist to provide proof of financial means to support two (or more) households (wives) equally, as required by the Holy Koran which states: "...but if you fear you will not do justice [between them] then marry only one..." (Koran, Surah 4, Verse 3). The prospective polygamist had to have his first wife's written consent, and had to provide proof that his first wife was, for example, incurably sick or sterile, before he could discard her at his pleasure.

The Act also provided that a woman could seek divorce on same grounds as men. Again, this was done tactfully in order to achieve compatibility with Islamic principles that gives the right to divorce only to men. According to the Act, both men and women were permitted to apply to the court for a certificate of irreconcilability. The first duty of the court was to try to reconcile the estranged couple (Articles 7 and 8). If attempts at reconciliation failed, then the court would always ask the man, irrespective of who had initiated divorce, to repudiate his wife, thus, allowing him to exercise his Koranic privilege. The court's attempt at reconciliation was also in accord with the spirit of Koran that says: "If you fear a breach between the two, then appoint a judge from his people and a judge from her people: if they both desire agreement, Allah will effect harmony between them" (Koran, Surah 4, Verse 35).

The Act established the necessary machinery by which the woman could seek and collect child support and obtain the custody of her children (previously belonging to men at the weaning age) if she was judged to be the fitter of the two parents. In brief, the Act, which was aimed at upgrading the status of women, recognized the wife as an equal partner in a marriage.

A significant aspect of the 1967 Act was that jurisdictions in all family matters would henceforth belong to the Civil Courts (Article 1). Actually, the curtailment of the jurisdiction of the *qadis* or *Shariah* (canon) courts began in 1927, when Reza Shah ordered a major change in the structure of the Ministry of Justice. He ousted the *Mullahs* from the Ministry and replaced them with Western-educated lawyers. This was followed by the enactment of the Iranian Civil Code, which was published beginning in 1928 and ending in 1935. In addition to the Civil Codes, many of which dealt with domestic matters, some specific laws were enacted during the Reza Shah's reign that exclusively dealt with family matters and status of women. The 1931 marriage law, and the law establishing and regulating the *Mahzars* (Vital Registration Bureaus), the 1938 law requiring the marrying couples to present health certificates to the *Mahzar* before a marriage could be officiated, and the 1940 revised law relative to the vital registration system are the best examples of Reza Shah's judicial reforms regarding status of women, marriage, and nuptiality in Iran.

In addition to these reforms, Reza Shah transformed the educational system. Education, which was then the exclusive privilege of the rich and clergy, became compulsory; schools for girls were established and parents were encouraged to enroll their daughters. And although faced with immense public and religious opposition, Reza Shah's most startling reform was the emancipation of women and his 1935-1936 forced discarding of *chador* (the veil).

Legal Age at Marriage

According to Article 1041 of the Civil Code enacted in 1935, for the first time the minimum age at first marriage was set at 18 for boys and 14 for girls, in order to prevent the parents or the *Shariah* courts from marrying off girls at very early ages.[3] (The Code permitted marriages at ages 15 for boys and 13 for girls under special circumstances.) In 1975 the government adopted a more stringent policy on the minimum age at marriage. According to Article 23 of the Amendments to the 1967 Act, the minimum age was raised to 18 for girls and 20 for boys. According to a study carried out in Shiraz,[4] 7.7 percent of all females married in 1956 and 1.7 percent of all those married in 1973 had married before reaching the legal age. The corresponding percentages for the rural areas were expected to be higher. But, needless to say, laws cannot be fully enforced immediately after they are enacted. It may take years before some laws are fully translated into social action.

Legalization of Abortion

A liberal abortion law was approved in October 1976 (Civil Penal Code on Abortion and Sterilization, Article 42, Section 3), according to which women could obtain abortion under easy conditions: (1) if the reason for requesting it was medically acceptable; (2) if the abortion did not cause any physical damage to the woman; (3) if the couple gave their written consent; and, (4) if the fetus was not more than 12 weeks old. Five years earlier, gynecologist Bahram Mohit reported that in a study of 9,540 women with an average age of 29, 15 percent had reported between one and seven induced abortions (then illegal). Seventy percent of these women were reported to be illiterate, and all came from low-income families.[5] Mohit also reports that in another study by a UN demographer in 1970 in Tehran it was estimated that for every five live births, one abortion took place. And many of these induced abor-

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tions, conducted under illegal, and thus unsanitary conditions, had led to the death of the women. These statistics provided the major reason for legalizing abortion in 1976.

The Reversal

The 1979 revolution and the subsequent establishment of the Islamic Republic guided by Koranic laws and led by religious authorities reversed almost all the judicial and social reforms put into motion during the Pahlavi Dynasty. Although the reversal has been mostly relative to women, men are also affected. In view of the long-standing opposition of the clerics to the previous regimes, the very collapse of the monarchy meant, in an unwritten and unspoken fashion, a condemnation of the Family Protection Act. During the nearly two years since the Ayatollah Khomeini came to power, the Iranian parliament has not formally repealed domestic laws enacted during the Pahlavi Dynasty. But as a result of various pronouncements by Khomeini, whose words are often taken unquestionably, and some other religious figures, the laws have been treated as illegal and/or rendered ineffective.

For example, during the first few weeks of his government, Khomeini declared abortion illegal in any form. On March 7, 1979, Khomeini "repealed" the Family Protection Act and pronounced that women in Islam should dress "decently." In view of the fact that *Mullahs* have never objected to women wearing the *chador,* Khomeini's pronouncement was immediately interpreted as calling on the women to return to *chador*. Angered by Khomeini's declarations, thousands of women poured into the streets of Tehran chanting the metaphorical slogan that: "In the dawn of freedom, there was no freedom." In May 1979, the Provisional Revolutionary Government reduced the minimum age at first marriage to 15 for boys and 13 for girls. And, in October 1979, in an interview granted to journalist Oriana Fallaci, Khomeini pronounced the Islamic law allowing polygamy as "a very progressive law and was written for the good of women, since there are more women than men. More women are born than men [sic]. . ."

It is important to note that contrary to the Ayatollah's claims, there are more men than women in Iran. Iranian census reports put the sex ratio at 104 in 1956, 107 in 1966, and 106 in 1976. That is, the excess of males to females numbered 335,184 in 1956, 884,407 in 1966, and 1,012,182 in 1976. In addition, it is a recognized biological and demographic fact that for every 100 baby girls some 106 baby boys are born. This is contrary to Khomeini's claim that "more women are born than men." That is, both reasons given for reinstituting polygamy are not substantiated by facts.

Men are also encouraged to follow the Islamic principles and marry shortly after reaching the age of puberty— age 15. Among the many institutions that have recently sprung up in the revolutionary Iran, the creation of the "Revolutionary Marriage Foundation" is of special significance. The basic purpose of this institution is to assist the eligible men and women to do away with the alleged basic barriers to marriage which existed during the previous regimes. This may be quite consistent with the Koranic teachings that: "when they [women] have cleansed themselves, go into them as Allah has commanded you; surely Allah loves those who turn much [to him], and He Loves those who purify themselves" (Koran, Surah 2, Verse 222); or, "Your wives are a tilth for you, so go into your tilth when you like. . .and be careful [of your duty] to Allah, and know that you will meet Him, and give good news to the believers" (Koran, Surah 2, Verse 223).[6]

It is beyond the scope of this brief article to detail the impact of the policies instituted by Khomeini's government on women, population, and development. It may suffice, however, to indicate that the policies have been in the direction of again secluding women by imposing severe restrictions on them, discouraging them from receiving education and working skills, discouraging them from accepting out-of-home employment, and encouraging them to return to their traditional role as mother and housekeepers.

Basic Demographic Features

The following data show the pattern of population change and rapid urbanization in Iran during the past 112 years.

Year	Population (millions)	Percent urban
1868	4.4	na
1900	9.5	na
1925	10.0	na
1950	17.5	na
1956	18.9	31.4
1966	25.1	39.1
1976	33.7	47.0
1981	39.0	50.0 (est.)

na = No reliable data available, but estimated to be small
Source: The Population of Iran: A Dynamic Analysis, by Jamshid Momeni. Shiraz: Asadi Press, 1975 (see chapter 2).

Aside from rapid population growth and a high rate of urbanization that may be noted from the above data, the population of Iran is very young—47 percent under age 15 and 55 percent under age 20; 92 percent born during the rule of the Pahlavi Dynasty. Currently it is growing at an alarming rate of 3 percent annually, meaning that Iran's population of 39 million today is expected to double in 23 years. The rate of urbanization is even higher. Should the trend of the past two decades continue, it is predicted that 75 percent of the population will be urban by the turn of the century. This calls for extensive planning to provide the projected population of 75 million by the year 2000 with adequate food, housing, and other basic necessities of life. Iran took its third census in November 1976. Results had started to appear by mid-1978; in fact, by then some 30 out of 186 scheduled reports were

already published. Then came the revolution and the installment of the Islamic government, which seems to be less than enthusiastic about getting all the results published.

Population and the Economy

In the final analysis the survival of the Islamic government may depend on economic issues. Two years after the revolution Khomeini faces not only the problems inherited from the previous regime, but the added considerable obstacle of political infighting. Not only are the very much needed population and family planning programs ignored, but more importantly the struggle to put Iran's economy on its feet has suffered. The principal reasons for this are the loss of capital, bad management, brain drain, shortages of all kinds, bankruptcies, skyrocketing inflation, labor radicalism, and revolutionary chaos.

The urgency of the problem is further dramatized by the estimated 2 to 3 million unemployed people of working age.[7] The bulk of the unemployed are in the cities. They are farmers who abandoned their low-yielding farms and migrated to the construction sites that mushroomed in the cities in the 1970s. During the last five years of the previous regime the demand for labor was so high that thousands of workers from Pakistan and Afghanistan (illegally entering Iran) were attracted to the Iranian labor market. Today's problems of unemployment (and underemployment) are further exaggerated by an estimated more than half a million Afghan refugees in Iran since the Soviets invaded that country. One doubts the present regime's industrial and socioeconomic development goals, if there are any, can ever provide employment for the millions of job seekers, and the regime faces the formidable task of providing for these people.

Some reports have indicated that the government is trying to coax people back to the farms. This means reversing a 15-20-year rural-to-urban migration trend. Limits on imports have raised farm prices, and this may have induced some laborers to return to their farms. But as the saying goes: "Once an Iranian reaches Tehran, then it is just hard to get him out of there." Besides, without massive development programs to create a large number of jobs in the rural areas, the Iranian farms do not have the capacity to absorb their extra labor resulting from uncontrolled fertility.

One must remember that even prior to the 1970s construction boom in the cities, rural to urban migration was heavy, because the migrants resulted from surplus labor in the rural areas. Thus, it is unlikely that the government will succeed in sending very many of the workers back to the rural area.

The Inevitable

While the previous regimes' judicial reforms reduced the jurisdiction of the clerics, it was claimed that the primary motivation for the reforms was to control the high fertility rate which was clearly recognized to be linked to the question of Iran's economic and sociopolitical development. In accordance with this objective, the previous regime had also launched a massive family planning program—the budget increased from almost zero in 1965 to $4.2 million in 1971, and $29.6 million in 1976. Also, plans to reduce the flow of migrants to the cities were in the works. Some industries were already established in the rural areas (e.g., Fars's Oil Refinery near the village of Bajgah, and the Petrochemical Complex near the town of Marvdasht). However, the regime's attempt to create employment out in the rural areas was painfully slow; and this was a major factor in the Shah's downfall.

Although much has been published about the revolution, very little has been said about the demographic components of the Shah's fall. In short, we must remember that the Shah-Khomeini confrontation was decided on in a few major urban centers like Tehran, Tabriz, Esfahan, Mashhad, and Abadan. It was in these cities, where millions of youths could be brought together in short notice, major demonstrations and rioting were organized. These demographically young (55 percent of the population is below age 20), physically energetic, socially uncommitted (i.e., unmarried), economically poor, professionally undecided, politically naive and manipulable, ideologically idealistic, and in search of a future with or without guns in their hands, drove the Shah out of Iran. To be sure, demographics played a large role.

As it happens, the Iranian economy is now replete with a mass of young unskilled, uneducated, deprived, and needy people who are not able to meet Iran's demands for skilled manpower. The manufacturers and employers who are left in Iran cannot find enough trained personnel to produce all the goods the economy needs. Limited output plus increased demand means inflation; yet, the massive unskilled population remains unemployed or underemployed, constituting a real problem for the regime.

Limiting women's participation in the national labor force by assigning to them the traditional role of childbearing/rearing and housekeeping, and being indifferent to the problems stemming from high fertility coupled with the pronatalist population policy inherent in Islamic laws, may confront the government with a time bomb.

References

1. "Iranian Family Protection Law of 1967: A Milestone in the Advance of Women's Rights," by F.R.C. Bagley, in *Iran and Islam*, C.E. Bosworth (ed.). Edinburgh: Edinburgh University Press, 1971, p. 52.
2. For details see: "Women's Conference Adopts Detailed Action Programme at Copenhagen." *UN Monthly Chronicle* XVII (8), September-October 1980, pp. 54-61.
3. *Shariah* has said nothing relative to the minimum age of marriage.
4. "Determinants of Female First Marriage in Shiraz, Iran," by Jamshid Momeni, *Canadian Studies in Population*, Vol. 6, 1969, pp. 81-99.
5. *Seght-e Janin* (Abortion), by Bahram Mohit. Tehran: Skerkat Sehami Chehr, 1352 (1973), pp. 147-151.
6. Based on a *Hadis* (religious interpretation), marriage is incumbent on all those who can afford or possess the ability.
7. *The Guardian*, Oct. 3, 1979, estimates the number of unemployed to be 2.5 million.

Year of the Disabled

Continued from page 1

Physical impairments and injury-related conditions. Blindness and visual impairment; deafness and hearing impairment; speech impairment; back or spine impairment; loss or absence or limbs; other, non-congenital defects.

Malnutrition. A major cause of brain damage and physical and mental defects, especially among children.

Comprehensive statistics on the numbers of disabled are impossible to obtain. Definitions of categories are one problem, difficulties in identifying, another. But the principal obstacle is that the disabled tend to remain an invisible, neglected portion of many national populations, sometimes thought of separately (e.g., polio victims), but seldom as a whole.

In 1976, however, the World Health Organization came up with a worldwide estimate of about 400 million disabled persons and gave a rough breakdown into category. (See Table 1.) These are the roughest of statistics, and should not be totaled or in any way taken as any more than an educated guesstimate, that helps to give a feel for the approximate size of the disabled population in all the countries of the world.

Somewhat better, but hardly exhaustive, statistics, are available for the U.S. In 1974, the Dept. of HEW reported that some 14.1 percent of the U.S. population reported some degree of activity impairment; that percentage might well be a constant. In recent years, the Health Interview Survey of the National Center for Health Statistics has collected some detailed data (examples of which appear in Table 2). Work-connected-disability surveys are periodically conduced by the Social Security Administration. The U.S. Census Bureau's Survey of Income and Education collects statistics on persons with various kinds of disabilities. And a brief three-part question on extent of disability (inviting yes-no answers) appears on the long form of the decennial Census.

Table 1
Rough Estimated Numbers of Disabled People in the World, by Cause of Disability, 1976

Medical cause	Estimated no. of disabled people in millions
Congenital and developmental disturbances	
Mental retardation (inc. non-congenital cases)	40
Physical defects	40
Non-genetic disorders	20
Disease-caused disabilities	
Poliomyelitis	1.5
Trachoma	10
Leprosy	3.5
Onchoncerciasis (river blindness)	1
Other communicable diseases	40
Noncommunicable somatic diseases	100
Mental and emotional disorders	
Functional psychiatric disturbance	40
Chronic alcoholism and drug abuse	26
Physical impairments and injury-related conditions	
Traffic accidents	30
Occupation accidents	15
Home accidents	30
Malnutrition	100
Total	**516**
Total after reduction by 25 percent to adjust for possible doublecounting (people suffering from more than one disability)	**387**

Source. Figures given in the World Health Organization report to the 29th World Health Assembly in 1976.

Such U.S. figures as there are are often strenuously disputed. No government agency has ever conducted a survey of the disabled that was detailed both in type of disability and geographical breakdown. Even that cornucopia of U.S. numbers, the *U.S. Statistical Abstract*, contains only fleeting references to the disabled (mainly listing those with connections to federal programs, such as brown-lung victims, and exceptional children in school.)

Table 2 shows some notable age-specific differences in disability prevalence rates. It should be noted that disability generally increases with age. According to the U.S. Council on IYDP, approximately 3 percent of newborn infants risk being disabled because of genetic malformation and birth trauma; about 6 percent of children and youth suffer from disability; almost 14 percent of the adult population risks being disabled; 42 percent of persons 65 and over are disabled.

These figures indicate the level of disability that might occur in a typical more developed country (MDC) population. Why may less-developed countries' (LDCs') disability rates be higher than those of MDCs? Some studies have shown that socioeconomic disadvantage—poverty, bad working conditions, inadequate medical services, poor or nonexistent maternal and child care, etc.—will push up the prevalence of disability, be it congenital, nutritional, disease-caused, or injury-caused. Such disadvantages exist in abundance in LDCs.

What the Year Holds

The aim of the IYPD is to get people everywhere to increase their efforts on behalf of the disabled on the local, national, regional, and international level. These efforts can take many forms, but in particular, it is hoped the year will stimulate action to:

- help disabled persons in their physical and psychological adjustment to society;
- promote efforts to provide disabled persons with proper assistance, training, care, and guidance, to make available opportunities for suitable work and to ensure their full social and economic integration in society;
- facilitate the practical participation of disabled persons in daily life; for example, by improving their access to buildings and transportation systems;
- educate and inform the public of the rights of disabled persons to participate in and contribute to various aspects of social, economic, and political life;
- promote effective measures for the prevention of disability and the rehabilitation of disabled persons.

A special IYDP Secretariat has been set up with headquarters in Vienna (Vienna International Centre, P.O. Box 500, A-1400 Vienna, Austria), with Mrs. Zala Lusibu N'Kanza of Zaire as Executive Secretary. Preparations and activities of the IYDP are being supervised by a 23-nation Advisory Committee, and the various UN agencies, such as UNESCO, WHO, and the International Labor Organization, are contributing to the Year in their respective fields, and providing funds.

The main activities of the Year will be conducted by the various national IYDP committees around the world. These committees will coordinate or encourage action at the national level, including the issuing of an IYDP proclamation to mark the beginning of the year; review and reform of relevant legislation and other regulations; mass media cam-

Table 2
Examples of Prevalence of Selected Impairments and Chronic Conditions in the U.S., 1977

Condition	No. (in 000s)					Prevalence per 100 persons				
	All ages	Under 17	17-44	45-64	65+	All ages	Under 17	17-44	45-64	65+
Unable to read newsprint with corrective lenses	1,391	37	105	259	990	0.7	0.1	0.1	0.6	4.4
Color blindness	2,073	196	1,050	604	223	1.0	0.3	1.2	1.4	1.0
Hearing impairments	16,219	856	3,480	5,365	6,518	7.6	1.4	4.0	12.4	29.3
Speech impairments	1,995	913	555	315	212	0.9	1.5	0.6	0.7	1.0
Absence of major extremities	358	(13)	70	136	138	0.2	(0.0)	0.1	0.3	0.6
Paraplegia	79	(12)	35	(17)	(15)	0.0	(0.0)	0.0	(0.0)	(0.1)
Quadriplegia	44	(-)	(17)	(10)	(17)	0.0	(-)	(0.0)	(0.0)	(0.1)

Note. Parentheses indicate that the statistic does not meet standards of reliability or precision, mainly because it is so small, relatively speaking; thus it is presented only for the purpose of combining with other cells.

Source. 1977 Health Interview Survey conducted by Division of Health Interview Statistics, National Center for Health Statistics

paigns; the involvement of nongovernmental organizations; and the final report to the UN on measures taken during the Year.

In the U.S., the national committees are the U.S. Council for the International Year of Disabled Persons, representing the private sector (1575 I St. N.W., Washington, D.C. 20005) and the Federal Interagency Committee—International Year of Disabled Persons, which is coordinating U.S. government activities (330 C St. S.W., Rm. 3125, Washington, D.C. 20201).

A calendar of national and international meetings during IYDP is available from the Federal Interagency Committee.

What Happens Next?

The IYDP will last only a year. Meanwhile, the earth's population will have grown another 75 million people, and the earth's disabled population probably another 7 or 8 million. The number of people with disabilities could increase by another 150 million (to 600 million) by the end of the century unless extensive preventive measures are put in place. In addition, LDCs will have to further develop technology and rehabilitation methods that are appropriate to their societies (rather than attempt to follow the "high tech" Western model of medical care and rehabilitation, which is often too expensive).

Events during the IYDP could do much to encourage those measures. But perhaps the most important outcome of the International Year of Disabled Persons will be in raising the consciousness of the people of the world that many of them or their fellow citizens are (or will be) disabled in some way. Disability is one of the risks of being human, yet the disabled population of the world has tended to be segregated, or made invisible. Increasing their visibility could go a long way toward ultimately fulfilling the IYDP's goal of "full participation and equality" for all.

Logo of the International Year of Disabled Persons: 1981

"...The shadows that fall across the future are cast not only by the kinds of weapons we have built but by the kind of world we will either nourish or neglect. There are real and growing dangers to our simple and most precious possessions: the air we breathe, the water we drink, and the land which sustains us. The rapid depletion of irreplaceable minerals, the erosion of topsoil, the destruction of beauty, the blight of pollution, **the demands of increasing billions of people** all combine to create problems which are easy to observe and predict but difficult to resolve. If we do not act, the world of the year 2000 will be much less able to sustain life than it is now.

But there is no reason for despair. Acknowledging the physical realities of our planet does not mean a dismal future of endless sacrifice. In fact, acknowledging these realities is the first step in dealing with them. We can meet the resource problems of the world—water, food, minerals, farmlands, forest, **overpopulation,** pollution—if we tackle them with courage and foresight..."

—President Carter's farewell address to the nation, Jan. 14, 1981

Senate Reports Chart National Impact of Population Trends

U.S. population trends and their long-term impact on the country's economic and social systems receive rare consideration in a new report prepared by the staff of the Joint Economic Committee of the U.S. Congress, chaired by Sen. Lloyd Bentsen (D-Tex.).

The report, "Human Resources and Demographics," is one of a series prepared by the Committee's Special Study on Economic Change. (See below for another report on Social Security and Pensions.)

The report describes the massive effect of the U.S.'s baby boomers (those born 1947-1961) on the labor force in coming decades. During the 1980s the labor force is expected to grow at 1.25 to 1.5 percent a year and then slow to less than 1 percent annually during the 1990s. While the competition for entry-level jobs will decline, the competition among the baby boomers for promotions and management positions will continue to be intense and frustrating.

Women (who constituted 60 percent of the people who entered the job market during the 1970s) are expected to continue to enter the labor force at about 1 million a year. Their labor force participation (percentage of women in the labor force), which was 43 percent in 1970 and about 50 percent in 1980, is expected to reach 60 percent by 1990.

The report ventures the opinion that a major factor in the U.S.'s reduced fertility rate in the past decade has been "the changing role of women, especially in the workworld.... This labor force participation is a prime argument against any near-future increase in birth rates. In addition, there has been a steady decline in the proportion of women marrying by age 24, women are having their first child at a later age, and women's investment in higher education is increasing—all contributing factors to maintenance of a steady fertility rate. The growth of two-earner families—partly caused by inflation—further reinforces the belief that the lower fertility rate will likely continue—at a level of about 1.9 births per woman for the next few years."

Other likely effects of population trends on the U.S. in the near future:

- The 25-to-44-year-old group is expected to set up new households at the rate of 1.8 million a year during the 1980s, as compared to 1.5 million in the 1970s and 1 million during the 1960s.
- The ratio of persons of working age to those 65 and over years could decrease from the present five-to-one ratio to possibly three-to-one by 2030.
- In 1977, one out of 11 of the 3.8 million males of military age needed to volunteer in order to meet the recruitment goal of 365,000 men per year. To attain the same goal in 1990, one out of eight men in this population group must volunteer, because the pool will have shrunk. "Greater numbers of women in the armed forces would help offset the reduction in the pool," the report comments, noting that the current goal of the armed forces is to increase the share of women on active duty from the present 7 percent to 11.5 percent by 1984.
- By 1990, the median age of the U.S. population is expected to rise to 33 years (from 30 in 1980); one in five persons will be black or Hispanic; one third of the population will be aged 24-44; and (assuming net immigration of 400,000 persons a year and a fertility rate of 1.9 children per woman) the U.S. population will be about 240 million, with a growth rate dropping toward 0.5 percent a year.

Social Security and the Future

In its report on "Social Security and Pensions," the Joint Economic Committee notes that a number of forces combined during the 1970s to put the Social Security system and other retirement funds in some difficulty. In the 1970s per capita income growth became very slow; the population is aging and the number and proportion of beneficiaries are increasing; the level of benefits was raised and tied to the cost of living; persistent inflation tended to reduce the value of contributions made and to require higher and higher benefits. At present, more than half of all families in the U.S. pay more in Social Security taxes than in income taxes.

"Currently legislated Social Security pension benefits far exceed currently legislated taxes to pay for the benefits," the report says. "If unemployment, inflation, and the rate of economic growth remain at unacceptable levels, this potential time bomb could explode unless it is defused by various means."

Exactly what means could be used is one of the major policy decisions awaiting government in the 1980s. One possibility is the replacement of the pay-as-you-go system of financing, whereby current benefits are paid out of current revenues (what another Committee report rather cheerfully called "the bond between the generations").

Another possibility is for private pension funds to shoulder more of the job of paying retirement benefits. Unlike Social Security, these funds maintain large assets that can be used for investment and stimulate capital formation in the U.S. economy.

Retirement policies may also come under scrutiny, including increasing the retirement age, reducing benefits, or some combination of these two. But however it is done, the Social Security system must come to grips with the new population profile of the U.S., wherein the beneficiaries of Social Security and retirement systems will grow from 35 million in 1979 to 47 million in 2000, while the proportion of workers paying Social Security taxes to Social Security beneficiaries slides from the present three-to-one ratio to a possible two-to-one ratio in 2025.

Orders for the reports "Human Resources and Demographics" and "Social Security and Pensions" may be placed by contacting Joint Economic Committee, Room 1537, Longworth Office Building, Washington, D.C. 20515. Telephone (202) 225-3565.

positions/professionals

Executive Director, specialized voluntary health agency, New York City-based, concerned with family planning and national and international programs, seeking executive, with the following factors considered: background of managerial administration experience in directing an agency or program with multi-million-dollar budget; background of knowledge and experience in family planning and public health and population with an understanding of clinical aspects. Medical degree preferable but not essential; extensive voluntary agency experience particularly in board/agency relationship and fundraising; international experience, including foreign language skills, desirable; willingness to travel; ability to project well in public.

Send resume, salary requirements, availability date and application letter by no later than Mar. 15 to: Search Committee, Box 1004-ED, Grand Central Station, New York, N.Y. 10164. An Equal Opportunity/Affirmative Action Employer.

world food news

A new look by FAO at the world's medium-term food production requirements shows there is much to be done if world agricultural production is to grow by 4 percent a year (the figure considered necessary to meet needs during the 1980s).

Food - To obtain increased food production in the not-too-distant future, FAO says total arable land in developing countries would have to increase from 764 million hectares in 1980 to 805 million in 1985. The area under rainfed irrigation, about 85 percent of the total, needs to increase from 658 to 688 million hectares. Cereal production in developing countries needs to increase from 484 million tons in 1980 to 565 million in 1985 and 916 million in the year 2000. Over the medium term, wheat production would need to rise from 97 to 106 million tons, rice from 226 to 257 million tons and maize from 83 to 106 million tons.

Energy - In developing countries energy use for agricultural production from commerical sources is expected to grow at high rates under the impact of expanded use of fertilizers, mechanization and irrigation pumping. This will result in consumption of 50 tons of oil equivalent in 1985 as compared with 35 million tons in 1980.

Livestock - Over the next few years, livestock production must grow by 4.6 percent annually. Meat production would need to increase from 25 million tons (1980) to 31 million tons (1985). Almost half the total output (15 million tons) would be beef; almost one-quarter (7 million tons) poultry and the balance pork and mutton (5 and 4 million tons respectively). Milk production would increase from 98 to 119 million tons.

Research support - Financial support for research in the developing countries is estimated to be less than 0.5 percent of their agricultural GDP. This system currently employs some 20,000 scientists. If research support for a satisfactory agricultural production increase is to be realized, the finances for the system should rise to about 2 percent of the agricultural GDP and the number of scientists should reach 40,000.

Food and agricultural policy - The world food and agricultural situation is decidedly insecure as the new year begins. For two successive years, world cereal production has declined and fallen below world consumption requirements. At the opening of the 1981-1982 season, world cereal stocks relative to world consumption could be as low as at the height of the world food crisis in the early 1970s. While the overall cereal imports of the developing countries are expected to rise from 42 million tons in 1970 to more than 90 million tons in 1980-1981, those of low income countries will have almost doubled during the decade. Food and agricultural production in the developing countries, which rose in the 1970s at an annual average rate of 3 percent, will need to rise to 4 percent in the 1980s.

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

grants/contracts

• Rutgers—the State University, New Brunswick Campus. Cook College: **Housing and Declining Household Size in the U.S.,** T.K. Rudel, Dept. of Human Ecology and Social Sciences, investigator. This project will investigate the economic and demographic determinants of three recent changes in the American housing market: (1) the increase in the number of primary individuals and childless couples who purchase single-family homes, (2) the increase in the number of apartments converted into condominiums, and (3) the increase in the number of single-family homes undergoing subdivision. The research will focus on the combined effects of declining household size and increasing house size on the three changes in housing tenure. Data on individual housing units and their occupants from Annual Housing Surveys for the period 1974 to 1978 will be utilized. (Funded by U.S. Dept. of HHS, FY 1980 $31,975.)

• Johns Hopkins University, School of Hygiene & Public Helath, Baltimore, Md.: **The Fertility of Immigrants to the United States,** K. Ford, Dept. of Population Dynamics, investigator. This project focuses detailed fertility analysis on three measures of fertility (recent fertility, cumulative fertility and childlessness) and how these three variables are related to neighborhood characteristics, ethnicity, marital history, socioeconomic status, recency of immigration, country of origin, age, and labor force participation. (Funded by NICHD, FY 1980 $39,447.)

• University of Texas, Austin, College of Liberal Arts: **Generation and Fertility Among Mexican Americans,** F.D. Bean, Dept. of Sociology, investigator. Research will investigate the manner in which Mexican immigrants to the United States and their descendants adapt their fertility to the experience of living in a country characterized by substantially lower fertility than their country of origin. Specifically, two aspects of this adjustment will be examined: (1) the possibility that the population of Mexican descent will decrease its fertility depending on length of time spent in the host society; (2) the possibility that fertility differentials by socioeconomic status will be greater among higher than lower generation Mexican Americans owing to a greater tendency for "minority group status" to depress the fertility of higher than lower generation couples. (Funded by NICHD, FY 1980 $15,821.)

• University of North Carolina, Chapel Hill, Granduate School: **Female Occupational Choice and Number, Timing, and Spacing of Children,** T.A. Doescher, investigator. The objective of this research is to establish a relationship between a woman's choice of occupation and the number, timing, and spacing of her children. The study will also analyze the mutual relationship among family size, labor force participation, and occupational choices of women. (Funded by U.S. Dept. of Labor, Employment & Training Administration.)

Vital Statistics Update

Provisional U.S. Vital Statistics: October 1980

Item	12 months ending with October					
	Number		Rate			
	1980	1979	1980	1979	1978	1977
Live births	3,595,000	3,435,000	16.2	15.6	15.2	15.3
Deaths	1,972,000	1,896,000	8.9	8.6	8.9	8.8
Natural increase	1,623,000	1,539,000	7.3	7.0	6.3	6.5
Marriages	2,414,000	2,357,000	10.9	10.7	10.4	10.1
Divorces	1,182,000	1,160,000	5.3	5.3	5.1	5.0
Infant deaths	45,400	44,800	12.6	13.0	13.7	14.3
Population base (in millions)	...	...	221.8	219.6	217.7	216.0

Source. Monthly Vital Statistics Report (Vol. 29, No. 10) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

INDIA'S RURAL DEVELOPMENT: An Assessment of Alternatives, by Marcus Franda. Bloomington: Indiana University Press, 1979. 306 pp. $17.50. ISBN 0-253-19315-x. LC 79-2177.

Franda, a long-time professional observer of India for the American University Field Service, analyzes 30 years of rural development efforts under a variety of government policies. He focuses principally, however, on the implications of earlier policies for current developments. In particular, he analyzes the policies of the Janata government which were intended to shift priorities in the direction of agriculture and economic growth, decentralize economic decision making, create conditions for growth of smaller rural industrial and commercial ventures, and significantly raise levels of both rural employment and purchasing power. Although the Janata party was removed from power since Franda's book was released, his review of the Janata government's attempt to abandon the early strategy of urban-oriented, heavy-industry development will be of continuing interest to India watchers. —*Robert P. Worrall*

WORLD POPULATION, 1979—RECENT DEMOGRAPHIC ESTIMATES FOR THE COUNTRIES AND REGIONS OF THE WORLD, International Demographic Data Center, U.S. Bureau of the Census. U.S. Government Printing Office, Washington, DC. 502 pp. $9.50. Stock No. 003-024-02686-4.

The latest edition of the Census Bureau's World Population series presents demographic data and estimates for 200 of the world's countries and territories and follows on the earlier release (WP-79A) which had presented similar information for countries of 5 million or more population. This edition's projected estimates update the data to 1979 for population and 1978 for vital rates. Perhaps this series' most valuable contribution is the detailed source notes and methodologies used in deriving estimates. Users who have copies of the earlier edition for the larger countries may wish to keep it available since, probably for space considerations, the section giving a time series of vital rates and the total fertility rates for countries with reliable data was not reprinted. —*Carl Haub*

NUTRITION AND THE WORLD FOOD CRISIS by Mary Alice Caliendo. New York: Macmillan, 1979. 368 pp. $9.95. ISBN: 0-02-318340-3. LC 78-18278.

The elimination of hunger and malnutrition—the goal of the 1974 World Food Conference—requires solutions which are technical, economic, cultural and political. The world needs not only more food, but more equitable distribution systems and improved living conditions for the majority of the world's people—those living in less developed countries. This is the philosophic perspective and organizing principle of this excellent resource for educators, nutritionists, health professionals, students, and others concerned with world hunger issues. Twelve well-researched chapters deal with a range of topics, from essential background data on nutritional status and deprivation, to complex cultural and economic analysis. The format of each chapter, which includes many photographs, makes the formidable task of understanding such complex issues easier. A helpful list of bibliographic, film, and organization resources is included in the appendices. —*Elaine M. Murphy*

STATE AND METROPOLITAN AREA DATA BOOK, 1979, A STATISTICAL ABSTRACT SUPPLEMENT, Data Users Service Division, U.S. Bureau of the Census. U.S. Government Printing Office, Washington, DC. 562 pp. $12.00 Stock No. 003-024-01638-9.

This new Census Bureau publication is the first in a series which presents data for states and for Standard Metropolitan Statistical Areas (SMSA's) and their component counties. With its 2,008 entries for states and 440 entries for SMSA's, this volume, similar in concept to the popular *County and City Data Book* series is a convenient timesaver when one must look up data on a wide variety of topics. Data are presented for such topics as: population, births and deaths, marriages, health, government, business, energy, farming, and transportation. The value of the *Statistical Abstract Supplement* series continues to increase with its expanding geographic coverage. —*Carl Haub*

THE NATION'S FAMILIES: 1960-1990, by George Masnick and Mary Jo Bane. Boston: Auburn House, 1980. 175 pp. $17.95; $10.00 paper. ISBN 0-86569-050-2; 0-86569-051-0. LC 80-20531.

We all know it's been happening, but here finally is complete documentation of the fact that the nation's families are changing. The authors identify three different generations of adult Americans who are simultaneously affecting traditional family and household structures: those who are 60 and older who married late, had small families, and are now likely to be living alone; those 40 to 59 who married early, had lots of babies, and bought large houses, many of which are now "empty nests," accentuated by prevalent divorce; and the under-40 "baby boomers" who are better educated, with more women working and postponing marriage and childbearing. The analysis of the life-course patterns of these three generations has enabled the authors to project future trends and their implications. Some significant finds include that the young generation will be likely to continue the low fertility, low marriage, and high divorce rates consistent with long-term trends; two-thirds of the projected total number of households in 1990 will have no children present; and by 1990, more women will be working full time more continuously, which will change consumption, time-use, and mobility patterns. In sum, households will be smaller and more diverse, offering most people a variety of family experiences. This important book is highlighted by over 50 graphs and tables. —*Laura Lippman*

POPULATION DISPERSAL, by John Oosterbaan. Lexington, Mass.: Lexington Books, 1980. 137 pp. $18.95. ISBN 0-669-03615-3. LC 79-9672.

Recent statistics report that the U.S. population is shifting away from major metropolitan areas to suburban and rural locales. This population dispersal from declining metropolitan to growing nonmetropolitan areas is the "New Reality" described by this book in historical, socioeconomic, political and philosophical terms. With a wide background in law, real estate, and population, the author combines technical analyses and informal discussion giving the book wide appeal. He begins with a description of the migrants—how and where they disperse and why they are leaving the traditional centers of industry and culture. He further examines such factors as the rise and decay of the American city, the social and professional make-up of the migrants, the impact of various dispersal philosophers and the government's role in the dispersal process. Though principally a study of American dispersal patterns, frequent comparisons are made to European models. The book concludes with an optimistic projection: current dispersal trends will result in growing and revitalized small towns and healthier, restructured large cities. —*Mary Ammirati*

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Population Issues Face Reagan Administration

When Ronald W. Reagan became the 40th President, he inherited, along with other national concerns, a spectrum of population issues. Some of these are quite direct—what funds should go to population assistance to other countries? Others are more subtle, such as the way seemingly irrelevant federal policy can have long-range population consequences. While the specter of the budgetary ax has preoccupied Washington recently, the new administration will, observers feel, ultimately have to come to grips with the dynamics of population; for government action (or inaction) is so powerful that it often affects national and world population trends, one way or another.

Immigration: The new administration will have to consider the whole question of immigration reform, and what to do about the 3.5 million to 6 million undocumented aliens estimated to live in the U.S. The Immigration and Naturalization Service (INS) has resumed raids on worksites (there had been a ban on such raids since early 1980, to encourage compliance with the 1980 census) but otherwise the law and policy interpretation remain the same as in the Carter days.

In a March interview, President Reagan commented that he was interested in the idea of an open U.S.-Mexican border, with people free to move back and forth between the two countries, and he said he would bring up the idea when he talked with Mexican President Jose Lopez Portillo in April. This idea follows Reagan's proposal, made during the campaign, for an accord between the U.S., Canada, and Mexico, though the details of this future confederation or "alliance of interests" was left vague.

(Meanwhile, the Select Commission on Immigration and Refugee Policy presented its final report after 19 months of work; see page 5. Whether the new President and Congress will act upon its recommendations remains to be seen.)

U.S. family planning aid: For FY 1982 the Carter administration had proposed $162 million for family planning services under Title X of the Public Health Service Act as well as $83 million for research and $10 million for the adolescent pregnancy services program.

Continued on page 11

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	U.S.	All other countries
Individual	$ 25	$ 32.50
All students	5	6.50
Educator—primary/secondary	10	13.00
Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

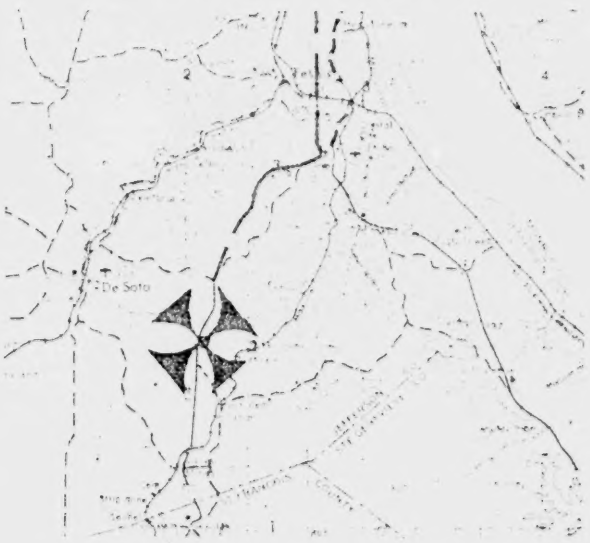
Sweeney Becomes PRB Scholar

Population communication specialist William O. Sweeney has been named PRB's first Visiting Scholar. This 1981 appointment will enable Sweeney to conduct research into user needs and materials availability of demographic information in the developing world.

Sweeney has long been active as an international consultant, helping to develop population communication projects and institutions in Asia, Africa, and Latin America. For the last 12 years he has worked with the International Division of the Ford Foundation. His broad experiences in institution building and personnel development in Third World countries is combined with work in information services and systems; thus, he will be able to use the fellowship to explore the many issues associated with demographic information needs, from census data to popular press reporting, and describe the needs of developing country institutions in the 1980s.

PRB's recently established Visiting Scholar Program for population specialists is made possible through a grant from the Andrew W. Mellon Foundation. Through this new program, PRB intends to enhance its collaboration with the academic community and supplement the capability of its professional staff.

X Marks the Spot



Since the 18th century, the U.S.'s geographic center of population* has moved steadily westward—from a point near Maryland's Eastern Shore in 1790 to a point within St. Clair County, Ill., in 1970.

Results from the 1980 Census show that the center of population has since crossed the Mississippi River. Census Bureau calculations now place the U.S. center of population 40 miles south-south-west of the Gateway Arch in St. Louis, Mo.; that is, in Jefferson County near the town of DeSoto. Trivia buffs will note that for probably the first time, the path of the national population center has started to deviate from the route of U.S. Route 50, a course the center had followed for well over a century.

*This center is defined as "the point at which an imaginary, flat, weightless, and rigid map of the U.S. would balance" if equal weights each representing the location of one person in the U.S. population were placed on it.

Birth Control, Overpopulation, and the Catholic Church

In 1968, contrary to growing expectations, Pope Paul VI in his Encyclical *Humanae vitae* reaffirmed the Roman Catholic Church's prohibition of artificial methods of contraception as sinful. John Paul II, his successor, charismatic, tireless defender of human rights and the "voiceless" poor, has stood "four-square" behind that teaching. So did the Vatican-dominated Synod of Bishops in Rome last fall.

This position is hindering the Catholic Church, with its some 750 million adherents (close to one-sixth of the world's population), from taking an effective lead in facing the growing threat of global overpopulation, says Father Francis X. Murphy, C.SS.R., well-known commentator and writer on Vatican affairs, population, and Catholic Church history, in PRB's *Bulletin* for February, "Catholic Perspectives on Population Issues II." It also ignores the pleas of liberal prelates speaking for their people at the Synod, says Murphy, who covered the month-long gathering of 216 cardinals and bishops, convened to discuss the state of the family.

San Francisco Archbishop John Quinn and other "First World" delegates to the Synod pointed out that the ban is being increasingly ignored by Catholic couples who feel the need to limit their families and find natural family planning and abstinence—the only Church-condoned birth control methods—unworkable. U.S. surveys of the mid-1970s—the latest available—show that 76.4 percent of Catholic married couples now practice birth control, just 3.5 percentage points short of the figure for non-Catholics. Of these, a third use the pill, the same figure as for non-Catholics, and only 6 percent use rhythm. Fertility rates for U.S. Catholic couples had also fallen virtually to the level of non-Catholic rates by the mid-1970s, observes Murphy.

He reports Quinn's argument that "the faith, religious practice, and good will" of these dissenting Catholic couples and their supportive priests "simply could not be called into question."

Supported by several Third World bishops, Quinn also urged that the Holy See "honestly confront" the world demographic situtation. Tanzanian Bishop Patrick Iteka claimed that current socioeconomic conditions have turned traditionally blessed large families into a burden for many Africans. Archbishop Angelo Fernandes of New Delhi pleaded for a change in Church birth control teaching to suit the needs of "millions of destitute couples" whose chances of exercising responsible parenthood in a true marriage were "nil."

The response from the dominant Rome-based Church *curia* was that "law not compassion" must remain the criterion of the Church's moral code, Murphy reports. This argument won out in the "Message to Christian Families in the Modern World" and in Pope John Paul's sermon which closed the Synod, he observes.

The Message reiterated the *Humanae vitae* teaching that "the transmission of life is inseparable from the conjugal union" and that "the conjugal act . . . must be fully human, total, exclusive, and open to new life." It put the blame for world poverty on "unjust social, economic, and political structures."

In his *Bulletin*, an expansion and updating of a 1975 PRB *Bulletin* of the same title which he co-authored with Joseph Erhart, Murphy traces the roots of the birth control ban in traditional Church teaching which stressed procreation as the primary end of marriage and discounted love, sexuality, and personal rights within marriage. Rhythm has been permitted for Catholic couples since 1930 but Pope Pius XII specifically outlawed the pill as a contraceptive in 1958.

Vatican Council II roused hopes for a change, Murphy says. Called by Pope John XXIII in 1962 in an attempt to update Church doctrine on all human issues, the four-year series of discussions among some 2,500 bishops in essence equated love with procreation within marriage and acknowledged the right of couples to exercise "responsible parenthood," taking into account "the material and spiritual conditions of the times as well as their state of life." A final decision on acceptable contraceptive methods, however, was left up to the Pope.

Unexpectedly, Pope Paul VI dashed the hopes for a change with his 1968 Encyclical, which was also contrary to the recommendations of a commission he had appointed to study the question of the contraceptive pill.

Pope John Paul's frequent reaffirmation of the ban on artificial contraception has also been unexpected, says Murphy. Like Paul before him, John Paul views his defense of the ban as "a sacred mandate" to ward off "onslaughts of materialism, rampant secularism, and moral permissiveness."

Murphy praises the call of the "jet-set Pontiff" for "a reorientation of world order" and "his invariable insistence on human dignity and rights." But he adds: "Unfortunately, in his transparent faith and compassion for the world's downtrodden, John Paul has not addressed himself to the problem of rapid population increase which hinders the development which he so earnestly wa[illegible]s."

Murphy regrets the failure of the Pope and the Vatican to recognize "the need for a strong, effective program, inaugurated by the Catholic Church in conjunction with other religious groups around the world, to urge parents to limit their families." This request could be "surrounded with a highly ascetic and spiritual motivation," he suggests, and described as the "the differential between the survival of the

Continued on next page

The Museum of the Mother opens this month in Athens, Greece. The brainchild of Dr. Christos Economopoulos, the unique museum will cover "everything to do with children and their mothers, from the moment of birth right up to their own marriage," including breastfeeding, modern theories on childbirth, nursery rhymes and children's games, nutrition, even such exhibits as snakeskin belts used to "prevent" infertility and colored stones used by children to guard against the "evil eye." "Being a mother is more than just giving birth to a baby," Dr. Economopoulos told the New York Times. "The traditional mother was also her child's teacher, and the greatest socializing influence on its life. This is what we hope the Mother's Museum will illustrate."

Brazil Cautiously Begins National Family Planning Program

by Amalia Cabib

As the sixth most populous country in the world prepared to welcome the new year, its Health Minister, Waldir Arcoverde announced that family planning would be officially adopted all over Brazil in 1981. Three years before, in 1977, a "program to prevent high health-risk pregnancies" was approved by the Brazilian Council of Social Development, but the administration of President Ernesto Geisel failed to implement it (see Thomas W. Merrick, INTERCOM, November-December 1979).

In a lively article about the new developments, the weekly magazine *Veja* compares Brazil to a ship heading on to the year 2000 and says that "its 119 million passengers now on board have already warned the crew against overcrowding conditions by the turn of the century. Despite some government hesitations and objections from the Catholic Church, there are signs that the crew has listened," says the article, "and the 1980s might well be a decade of effective changes" in the giant South American country, "leading to more breathing space and comfort for its passengers—and eventually preventing mutiny."

On Sept. 1, 1980, Brazil conducted its decennial national census. So far, a preliminary estimate of the resident population has been issued, showing a national total of 119 million people. This figure came as a surprise to many population experts, who expected a higher growth rate than that shown by the 1980 census results. The drop in natural increase (births minus deaths) from an estimated annual rate of 2.86 percent in 1960-1970 to 2.47 percent during the last decade has been disputed, however, by some Brazilian researchers who believe that the preliminary estimate of 119 million could lead to false conclusions. On the other hand, the decline observed in Brazil's birth rates since the mid-1960s has been cited by many who oppose any official attempt to reduce Brazil's population size. They argue that the figures show a "spontaneous" birth control trend which would make any government-sponsored family planning programs unnecessary.

More formidable opposition comes from the Catholic Church, whose leaders condemn the use of "artificial" contraceptives, and from the Brazilian left which follows the Marxist line against birth control. Above all these voices, the government of President Joao Figueiredo seems determined to carry out the program inherited from its predecessor. Apparently, the goal of Health Minister Arcoverde would be to slow down the pace of population growth to 1.5 to 1.8 percent annually, according to the daily *Folha de Sao Paulo*.

"With the current rates, we shall grow up to 200 million by the end of the century. When are we going to stop?" says Rubens Vaz da Costa, Secretary of Planning of Sao Paulo. Costa would like to see Brazil achieve a population of 135 million by the end of the decade, and 160 million (instead of the projected 200 million) by 2000. Achieving this goal would require a population growth rate of 1.5 percent for 1980-1990 and 1.1 percent for the period 1990-2000.

How can this be accomplished? In December, Minister Arcoverde unveiled the family planning program integrated to the Program of Basic Health Services (Prev-Saude) which will provide free contraceptives, free vasectomies, and free tubal ligation through state medical outposts all over the country. The program, however, will be implemented in a gradual and subtle way, reports *Veja*, in order to avoid further collisions with the Catholic Church. Mass media publicity campaigns will be particularly avoided. Instead, the government is trying to get the help of lay Catholics, priests, nuns, and even bishops to disseminate information about "natural" methods of contraception. In the step-by-step program, the next step will be the wide distribution of information on human reproduction, fertility, and use of contraceptives like the pill, diaphragms, condoms and spermicides (but not IUDs which the Health Minister considers abortifacients) through state-run health posts. Finally, low-income couples will be provided free contraceptives under medical guidance, and hospitals will "liberalize" more "radical methods" such as tubal ligation for women and vasectomies for men.

For all its cautiousness, the program has not yet gained the approval of the Church. Meanwhile, Brazilian couples are not waiting for the government to start limiting the size of their families. Bemfam, a private organization which pioneered family planning in Brazil in 1965, conducted in 1979 a survey in the northeastern state of Piaui and found that among poor women, 31 percent used some contraceptive method; 10 percent favored the pill and 15 percent were sterilized. And a more recent Gallup poll says that 82 percent of the people interviewed in Sao Paulo city think that two to three children is the "ideal" number they would like to have. □

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human race and the Armageddon that could be set off not so much by nuclear destruction as by the struggle for living space."

Murphy sees hope for change in official Church doctrine on birth control in the fact that the tribulations to which that teaching has put millions of Catholic couples attempting to live truly Christian family life were registered by "their outspoken cardinals and bishops" at the Synod. While "temporarily sidetracked, this witness cannot but have an effect in gradually accomplishing the teaching of Vatican Council II that the faith and activity of 'the people of God,' along with the Pope and hierachy, constitute the Church," he says. Once "the mind of the faithful" asserts itself, as it did in forcing "180-degree turns" in Church teaching on such issues as religious liberty and ecumenism at Vatican Council II, "the contribution of the Roman Catholic Church to the settlement of such pressing world population problems as that of rapid population growth could become substantive," he concludes.

An historian and theologian, Father Murphy is rector of Holy Redeemer College in Washington, D.C., and this month concludes six years on PRB's Board of Trustees. The latest of his numerous publications include "Of Sex and the Catholic Church," in *The Atlantic Monthly* of February 1981, and *The Papacy Today*, published this month by Macmillan.

Additional copies of his 43-page *Bulletin* (Volume 35, No. 6), "Catholic Perspectives on Population Issues II," may be ordered from PRB's Circulation Department, P.O. Box 35012, Washington D.C. 20013, at $2.00 per single copy; 2-49 copies, $1.75 each; 50 copies or more, $1.50 each. For mailing inside the U.S., add 50¢ on orders of $5.00 or less. Outside the U.S., add 25 percent to the cost of *Bulletins* ordered to cover postage and handling. □

More Immigrants but Better Control, Select Commission Advises

"We recommend closing the back door to undocumented/illegal migration, opening the front door a little more to accomodate legal migration in the interests of this country, defining our immigration goals clearly and providing a structure to implement them effectively, and setting forth procedures which will lead to fair and efficient adjudication and administration of U.S. immigration laws."

—The Rev. Theodore M. Hesburgh
Chairman of the U.S. Select Commission on Immigration and Refugee Policy, March 1, 1981.

With those words, the Select Commission on Immigration and Refugee Policy submitted its final report this month to the Congress and President. The Select Commission had spent some 19 months conducting a comprehensive review of the whole question of immigration policy, a subject that previously had been studied only sporadically and piecemeal, resulting in a complex patchwork of laws and policies.

While endorsing the idea that immigration is in the national interest, contributing to the social and economic well-being of the country, the Commission, in Father Hesburgh's words, believes "there are limits on the ability of this country to absorb large numbers of immigrants effectively.... This is not the time for a large-scale expansion of legal immigration—for resident aliens or temporary workers—because the first order of priority is bringing undocumented/illegal immigration under control, while setting up a rational system for legal immigration."

The Select Commission made recommendations in many areas touched by immigration issues, from controlling the flow of illegals to expediting the judicial process in immigration court cases. In particular, the Select Commission recommended:

Undocumented Immigration and Refugees

Improved border enforcement, with Border Patrol funding levels to be increased substantially.

A fully automated system of nonimmigrant document control should be set up in the Immigration and Naturalization Service to allow prompt tracking of aliens and to verify their departure.

Endorsement of the provisions of the Refugee Act of 1980 which cover the definition of refugee, the number of visas allocated to refugees and how these numbers are allocated.

Legislation should be passed making it illegal for employers to hire undocumented workers.

Employee eligibility should be verified by a reliable method of identification. The Commission was divided on the specific kind of identification that should be used—by a vote of 9 to 7, Commissioners favored employer sanctions with some existing forms of identification. By a vote of 8 to 7 with one abstention, Commissioners voted for use of some more secure (though unspecified) method of identification.

The adoption of a program to legalize undocumented/illegal aliens now in the United States.

Eligibility should be determined by interrelated measures of residence—date of entry and length of continuous residence—and by specified ground of excludability that are appropriate to the legalization program. Specifically, the Commission recommended that eligibility be limited to un-

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capsules

China census postponed: China has reportedly put off its national census of population (the first since 1964), originally scheduled for June 1981. Despite assistance from the UN Fund for Population Activities, preparations and pretesting are not yet complete enough for a confident headcount of the world's most populous country (estimated population: 975 million). The new census is now expected to take place in mid-1982.

Indonesia census report: Indonesia's 1980 Census results have been released, and show an Oct. 1980 population total of 147,383,075. The fact that this is some 5 million more that had been expected could have implications for Indonesia's demographic future (it is already the fifth most populous nation in the world, but has been making great efforts in family planning programs). A more detailed report on Indonesia's census will appear in the next issue of INTERCOM.

Passive smoking: exposure to secondhand smoke from cigarettes significantly increases a person's chance of getting cancer, according to a recent Japanese study. Women whose husbands smoke over 20 cigarettes daily have a rate of lung cancer two times higher than women married to nonsmokers. (For women whose husbands smoke 1-19 cigarettes a day the lung cancer rate is 1.61 times higher.) The study observed several hundred thousand people over a period of 14 years.

Chairborne: In other times and other civilizations, it has been common for women to give birth while sitting or squatting; now many U.S. hospitals are returning to the practice with the use of modern birthing chairs, motorized to allow tilting and elevation. Doctors are finding that the sitting position utilizes gravity, allowing quicker and easier births. The sitting position can reduce delivery time by 50 percent in the second stage of labor, after the cervix is fully dilated. More importantly, many women find the position more comfortable for delivery. Doctors say childbirth in a chair may not be suited to all women but are interested in studying the idea on a wider scale.

Nevada's crime rate was overstated by a factor of 100 in the Jan. 1981 INTERCOM (in the article "Beware the Devious Denominator"), due to a typographical error. The state's 1977 crime rate was actually 7,968 serious crimes per 100,000 population, not "per 1,000 population," a clear case of Beware the Curious Constant.

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documented/illegal migrants who illegally entered the United States or were in illegal status prior to January 1, 1980 and who, by the date of enactment of legislation, have continuously resided in the United States for a minimum period of time to be set by Congress.

Admission of Immigrants and Nonimmigrants

A modest increase in numerically limited immigration from 270,000 to 350,000 per year. The new base level should be increased by a fixed amount (100,000 per year) for the first five years to provide a higher ceiling, allowing backlogs to be cleared.

Continued admission of immediate relatives of U.S. citizens outside of any numerical limitations should be permitted including adult unmarried children and grandparents of U.S. citizens.

An interagency body should be established to develop procedures for handling possible mass asylum emergencies, in the future, including contingency plans for opening and managing federal processing centers.

A procedure that would allow the INS to impose administrative fines on schools that neglect or abuse their foreign student responsibilities should be established.

Existing law should be amended to create an immigration court to reduce existing backlogs.

The current English-language requirement for naturalization should be retained, with exceptions for older people. □

Sperm Donor Secrecy Problems

There are an estimated 250,000 children in the United States who were conceived by the process of Artificial Insemination Donor (AID). Very little is known about the family life or the mental and physical development of these children. This lack of knowledge is caused by the secrecy which envelops the AID procedure which, in turn, is caused by the fear of potential legal consequences of AID.

Current methods of choosing a sperm donor and keeping records vary from case to case. A survey of 379 AID practitioners, conducted by a University of Wisconsin research team in 1977, provided the only data in existence on AID in the United States. It showed that in almost all the cases, it is the physicians who select the donor and 62 percent of them use medical students or hospital residents. This suggests that they choose to "reproduce themselves" and those in their profession instead of replacing a cross-section of the population. Also, only 29 percent of the physicians administering AID perform any biochemical tests (other than blood typing) on the donors and those tests which are conducted are primarily for detection of communicable, and not genetic, diseases.

Although 93 percent of physicians kept permanent records on the sperm recipients, only 37 percent kept records on the children born to these recipients. The fear of record-keeping is based on the idea that a donor may be sued for parental obligations. However, if a donor is used more than once (one physician used a single donor for 50 pregnancies) and no records are kept on the subsequent children, there is no mechanism for detection and prevention of genetic diseases.

The major problems of AID are not legal, but stem from the present lack of uniform social or professional agreements on selection and screening of donors, mixing of donor sperm, or keeping records on sperm donations. □

Rural Areas Outpacing Cities

Preliminary figures from the 1980 Census have borne out the shift to a higher population growth rate in rural and small town areas that was first detected in the early 1970s. According to the U.S. Census Bureau, nonmetropolitan counties grew by 15.4 percent from 1970 to 1980, while metropolitan counties (in general, defined as areas containing urban centers of 50,000 people or more) increased by 9.1 percent. This is the first time since 1920 that such a trend away from urban in-migration has occurred, and contrasts with the growth patterns in the 1960s, when metroplitan areas grew by 17 percent and nonmetropolitan areas by only 4.4 percent.

According to Calvin L. Beale of the Economics and Statistics Service of the U.S. Dept. of Agriculture, all parts of the country experienced the increase in rural and small town communities, although the rate of growth varied considerably from area to area. Nonmetropolitan growth was greatest in the West, with an overall increase of 31.8 percent. Some of the reasons for this high growth level were energy and other mining developments, retirement, resort areas, and relatively high birth rates.

Another area with a notable shift in population is a 26-county region encompassing neighboring parts of Kentucky, Virginia, and West Virginia in the midst of the southern coal fields. During the 1970s, nonmetropolitan population in that region increased by one-fifth, reversing the trend of the 1960s, when all but two counties declined in population, with an overall decline of one-sixth for the region.

"In absolute terms, the number of people in nonmetropolitan counties increased from 54.4 million at the beginning of the 1970s to 62.8 million by 1980," said Beale. "This includes a net of at least 4 million people who moved in from metropolitan areas and abroad. By contrast, in the 1960s, some 2.8 million more people moved out of the rural and small counties than into them."

After 1820, each census showed the fastest growth to be in the urban areas, although not until 1920 did the census reveal that more people lived in cities rather than on farms. The two World Wars, increasing mechanization of agriculture and the concentration of industry in urban areas all contributed to the movement from the farm to the city. But the present movement back to rural areas is not a return to farms; corporate farming and its continuing mechanization process have reduced the need for farm labor. Rather, the population shift appears to be due more to the relocation of industries, services and educational institutions to rural areas, the greater ease of commuting, and the growth of retirement and recreational communities in rural regions.

Using a metropolitan/nonmetropolitan comparison is convenient, but obscures an important point, the fact that millions of people live in counties classified as metropolitan but which are primarily rural. Because a high proportion of the working residents commutes to urban areas, these counties are thus classified as metropolitan.

This population shift raises major policy questions for the government, including the pressures of unemployment and underutilization of facilities in the declining areas, especially the urban Northeast, and the demands for housing, schools, etc., in the expanding areas. In addition, policymakers must decide whether to encourage movement of business and people to the West and Southwest (a movement that represents the "wave of the future" to some) or to create incentive programs to maintain the vitality of the older Northern cities. □

Increase in U.S. Blacks and Hispanics: Partly Statistical

Recently released figures from the 1980 Census show a considerable increase in the numbers of blacks and Hispanics in the U.S. Much of this increase, however, is probably due to more comprehensive counting and census publicity, rather than actual population growth.

The figures show that blacks now number more than 26 million (or 11.7 percent of the U.S. population). Some 14.6 million persons of Spanish origin were counted (constituting 6.4 percent of the population). These Hispanics include, the Census Bureau believes, "a sizable but unknown number of persons in the country in other than legal status."

During the 1980 Census, the Bureau made efforts to reduce the undercount of these minority groups, an undercount which has always been much greater than the undercount for whites. Comparisons with demographic estimates suggest that the 1980 undercount for blacks may be in the range of 4.5 to 5.5 percent, compared to the estimated 7.7 percent black undercount in the 1970 Census. (Undercount calculations for other groups are yet complete.)

In the 1980 Census, the race concept used was based on self-identification, as in other censuses: Persons were asked to report the race with which they identified. Some 40 percent of Spanish-origin persons did not report a specific race (white, black, etc.) but instead marked "other." (In 1970, persons who marked "other" and provided write-in entries such as Puerto Rican, Mexican, etc., were classified as white; consequently, then, only 1 percent of Spanish origin persons were included under "other.") What this means is that the 1980 population totals for "white" and "other" are not comparable to the same catagories in the 1970 Census.

For the first time since the Census Bureau began recording information on the American Indians, the American Indian, Eskimo, and Aleut population exceeded 1 million—an increase of 71 percent since 1970. Most of this increase is a result of improved coverage in addition to changes in the likelihood of persons to identify themselves as Indian. □

U.S. Population by Group: 1980 and 1970

Population Group	Number		Percent Distribution	
	1980	1970	1980	1970
Total U.S. Population	226,504,825	203,211,926	100.0	100.0
White	188,340,790	177,748,975	83.2	87.5
Black	26,488,218	22,580,289	11.7	11.1
American Indian, Eskimo, and Aleut	1,418,195	827,268	0.6	0.4
Asian and Pacific Islander	3,500,636	1,538,721	1.5	0.8
Other	6,756,986	516,673	3.0	0.3
Persons of Spanish Origin	14,605,883	9,072,602	6.4	4.5
Persons not of Spanish Origin	211,898,942	194,139,324	93.6	95.5

Source: U.S. Census Bureau.

Percent Distribution of U.S. Spanish Origin Population by Race: 1980 and 1970

Spanish Origin Population by Race	1980		1970	
	Number	Percent	Number	Percent
Total Spanish origin	14,605,883	100.0	9,072,602	100.0
White	8,113,648	55.6	8,466,126	93.3
Black	390,733	2.7	454,934	5.0
American Indian, Eskimo, and Aleut	94,719	0.6	26,859	0.3
Asian and Pacific Islander	166,135	1.1	36,753	0.4
Other	5,840,648	40.0	87,930	1.0

Source: U.S. Census Bureau.

Note: The 1980 and 1970 data for racial groups and Spanish origin persons are not entirely comparable. See text.

African Elephant Census Charts Perilous Decline

An urgent appeal by Oria Douglas-Hamilton in the Nov. 1980 *National Geographic* warns of a drastic reduction in the African elephant population. Ms. Douglas-Hamilton and her husband Ian recently completed a four-year census of Africa's elephants with funding from the New York Zoological Society, the World Wildlife Fund, and the International Union for Conservation of Nature. Their findings: only about 1.3 million elephants are still alive on the continent and they are being killed faster than they can reproduce.

There are two major threats to the animals. Expanding civilization has enormously reduced the elephant's range in Africa. Along the Ivory Coast alone, 24 million acres of forest have been destroyed in the last 30 years. Poachers pose a newer but equally grave threat. Soaring ivory prices in recent years (from 45 cents a pound paid to poachers in the 1960s to $6 by 1976) have caused their numbers to skyrocket. Using a variety of weapons (poisoned arrows, spears, pitfalls, poisoned fruit and, most importantly, automatic rifles) the poachers make a drastic impact.

The Douglas-Hamiltons' census, covering 35 different countries, shows differing conditions for the elephants in various areas. In Uganda the situation is especially serious: elephants fell prey in large numbers both to Idi Amin's retreating soldiers and to Tanzanian troops in the Uganda-Tanzanian War. In the southern part of Uganda's Ruwenzori National Park, the elephant count was 160, down from about 8,000 ten years earlier. In Cameroon, Pygmies, who formerly killed elephants only when they needed the meat, are now supplied weapons by ivory dealers and kill the animals in exchange for cash and liquor. More hopeful are the statistics from a handful of countries such as Zimbabwe that maintain stable elephant populations with the aid of strict conservation laws and sufficient enforcers.

The counting of the elephants was done primarily by aerial surveillance, with the elephants' large forms making them easy targets for the eye. The Douglas-Hamiltons made their count from an airplane flying at 300 feet in straight lines three to six miles apart. The numbers and locations of all elephants and elephant carcasses sighted were plotted on maps. □

Getting World Energy Out of the Woods

The world's oldest fuel, wood, is regaining status as an important energy source, according to a recent Worldwatch Institute study. Says Nigel Smith, author of the report:

"Wood has recently surpassed nuclear power as a source of energy in the United States and could provide up to one-fifth of the country's energy by the year 2000."

Wood is an especially important energy source in the Third World; in many countries it is the major fuel for residential cooking and heating. For these countries, the higher cost of kerosene and other fuels leaves them little choice but to continue to cook and heat their homes with wood and charcoal.

But skyrocketing fuel costs are causing wealthier nations to take another look at wood. Its abundance and relatively even distribution around the world make it an attractive possibility. Says Smith:

"Of the industrial nations, the United States was one of the last to switch to home heating with fossil fuels, and it is now on the crest of the wave of nations returning to wood. Seven percent of the homes in the country are now entirely or partly heated with wood stoves or furnaces, and the proportion is steadily increasing."

Smith sees a bright future for wood as an industrial energy source as well. Wood-fired industrial boilers were a negligible percentage of all boiler sales in the mid-sixties; by the mid-seventies they constituted 5 percent of the total. Machines have been developed that will shred trees into small chips or pellets for use in the boilers, making their use more efficient. The town of Burlington, Vt., plans to build a 50-megawatt wood chip furnace that will generate electricity for 20,000 residents at 20 percent less cost than the energy from a comparable coal-fired plant.

Another important use of wood in the future will be in the production of methanol, or wood alcohol.

"Wood alcohol is clean-burning, creates none of the environmental problems associated with coal gasification, and is technologically feasible," Smith writes. "Its production is particularly suitable in heavily forested countries lacking their own oil resources. High production costs suggest methanol is cost-effective once gasoline reaches $3 to $4 a gallon, a price many motorists outside North America are already paying."

Smith is careful to point to the possible environmental hazards of increased wood use. Indiscriminate harvesting of fuel wood is already having a devastating effect on the environment in many parts of the world. In addition, the smoke from wood burning can be a major source of air pollution. But Smith believes that these problems can be dealt with by the use of smog devices on wood burning stoves and by large-scale tree planting efforts. "The economic case for switching to wood gains strength with every increase in the price of oil and natural gas."

Copies of *Worldwatch Paper* 42, "Wood: An Ancient Fuel with a New Future," are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.) □

demographer's page

John Knodel is Associate Professor, Dept. of Sociology, and Research Associate, Population Studies Center, at the University of Michigan. Nibhon Debavalya is Director of the Institute of Population Studies at Chulalongkorn University, Bankok. This Demographer's Page was delivered as a paper at the 1980 meeting of the American Public Health Association, Oct. 23, 1980, in Detroit, and is based on research that was in part sponsored by the Population Council.

Breastfeeding Trends in Thailand and Their Demographic Impact

by John Knodel and Nibhon Debavalya

In recent years, concern has arisen over the potentially detrimental effects on infant and child health of allegedly decreasing breastfeeding in Third World countries. This increase in concern, however, has far outstripped any increase in the documentation of such shifts in infant feeding practices in those countries. Studies of trends in the prevalence of breastfeeding over time based on nationally representative surveys, or even comparable local surveys, are remarkably rare.

Fortunately, in the case of Thailand, the necessary data are available for an analysis of trends and differentials in breastfeeding over the last decade. The data come from a series of national sample surveys conducted by the Institute of Population Studies of Chulalongkorn University between 1969 and 1979.

Employing the data from these surveys, we estimate that during the last decade the average duration of breastfeeding declined from 22.4 months to 17.5 months in rural areas, and from 12.9 months to 8.4 months in urban areas. (These results are based on the proportion of infants still being breastfed at different ages at the time of each survey.) The results are shown in Table 1. In both rural and urban areas, each successive survey has indicated a shorter duration of breastfeeding than the previous one.

Table 1
Average Duration of Breastfeeding (in months) in Thailand

Residence	Year of survey				
	1969	1970	1973	1975	1979
Rural	22.4	22.0	—	20.9	17.5
Urban	—	12.9	9.9	9.7	8.4

Note. Results refer to nonpregnant women only.
Source. Knodel and Debavalya.

Table 2
Percentage of Last Births Never Breastfed in Thailand

Residence	Year of survey	
	1975	1979
Rural	6.4	9.6
Urban	25.8	24.4

Source. Knodel and Debavalya.[1]

Comparable data on the proportion of children never breastfed, based on information from the most recent birth, are available only from the surveys taken in 1975 and 1979. In urban areas, approximately one out of four last births was reported as not having been breastfed at all, both in 1975 and 1979. In rural areas, a slight increase in the proportion ever breastfed is indicated for those same years. Even by 1979, however, nine out of 10 last births in rural areas were breastfed for at least some period of time. Thus, changes in the proportion ever breastfed appear to be either nonexistent or minimal, despite the marked trend toward shorter breastfeeding durations.

Tables 1 and 2 both illustrate the prominent urban-rural differences in breastfeeding practices throughout the period covered by the study. Breastfeeding is far more common and far longer in rural areas than in urban areas. Only a small proportion of rural women do not breastfeed their children at all, and weaning before the child is one year old is unusual. In contrast, urban women are much more likely not to breastfeed their children or to do so for shorter periods of time. Nevertheless, it is worth noting that even in urban areas, most children are breastfed for at least a few months. The study also revealed that urban women of rural origin breastfed more than native women but considerably less than their counterparts who remained in the countryside.

Differentials in Breastfeeding

Analysis of the data also reveals a number of important differentials in breastfeeding practices. In general, better educated, higher status, and wealthier women breastfed less than lesser educated, lower status, and poorer women. This was particularly the case in the urban areas. For example, among rural women in 1979, the average reported duration of breastfeeding for their child was just over 20 months for women who did not complete primary education, but less than half that for women who had more than primary education. In urban areas, the average reported number of months of breastfeeding declines from over 12 months for women with less than a primary education to less than five months for women who have at least some high school.

The relationship of breastfeeding patterns and female employment is apparently complex and not easily summarized. In general, the association is strongest in the urban areas where women working in white collar jobs breastfeed considerably less than other women. It is difficult to determine whether this is a result of employment per se or rather a characteristic of their social-class milieu in general. In rural areas, farm work is not generally associated with reduced breastfeeding.

There is a negative association between breastfeeding and the use of modern health services for delivery of births, especially in urban areas. Women who delivered their last birth in a hospital or health center breastfed less than women who delivered at home. Thus our findings are consistent with the claim that modern maternity services discourage breastfeeding, especially in urban settings. While a causal interpretation is not justified on the basis of our findings, it is worth noting that for urban women much of the negative association persisted even after introducing statistical controls for the woman's educational attainment and region of residence.

Our analysis also indicated that contraceptive users, particularly women relying on the birth control pill, breastfed less than nonusers. Women who indicated they wanted no additional children tended to breastfeed more than women who wished to continue childbearing, especially among noncontraceptors. This finding suggests that some women may deliberately prolong breastfeeding with the intention of delaying further births.

There is virtually universal agreement that breast milk is the most healthful food for young infants. It is nutritionally ideal for at least the first six months, provides some natural immunity from disease, and is hygienic. The same cannot be said for substitute infant foods. There is substantial evidence from studies in Europe and the United States that earlier in this century, hand- or bottle-fed infants experienced much higher mortality than their breastfed counterparts. Moreover, there is now substantial evidence from recent research that breastfeeding extends the period of postpartum infecundity, thus lengthening the birth interval, and in the absence of contraception, keeps fertility lower than it otherwise might be.

From these general findings, we might expect a reduction in breastfeeding to be accompanied by higher infant mortality and fertility. The fact of the matter is, in Thailand just the opposite has been the case.

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Table 3
Infant Mortality Rate[a] in Thailand

Residence	Year of survey		
	1970	1974	1978-79
Rural	74	65	59
Urban	31	27	25

[a]Number of deaths to infants per 1,000 live births during the year.

Note. The figures in this table represent indirect estimates which refer to conditions during periods approximately 4 years prior to the date of the census or survey.
Source. Knodel et al.[1]

demographer's page

Continued from preceding page

The Influence of Contraception

As shown in Table 3, infant mortality in Thailand in both rural and urban areas has continued to fall at the same time breastfeeding has declined. It is also evident that infant mortality is far lower in urban areas than in rural areas despite the greater prevalence of breastfeeding and its longer average duration in the latter. Other evidence indicates that infant mortality is particularly low among urban women with white collar jobs; in other words, among the same group that breastfeed least. Whatever the critical factors are, the fact that infant mortality is at least several-fold higher in the countryside, where prolonged breastfeeding has been and continues to be common, than in urban places, suggests that any significant reduction in the rural infant mortality level will have to stem from changes other than increased breastfeeding.

Such improvements could indeed be hindered or even reversed if the present trend in breastfeeding continues and substantial declines in breastfeeding among rural women precede an expansion of medical services or of other factors which have been responsible for the improved infant mortality to date. In addition, a reversal in the trend toward reduced breastfeeding would probably have health benefits for children above and beyond increased survival chances. Nevertheless, such a reversal has quite limited potential, in itself, to reduce infant mortality in the countryside where breastfeeding is common and prolonged. It is also unlikely to have a big impact on infant mortality in urban areas where infant mortality levels are already quite low despite less breastfeeding.

During the same period for which we have documented a decline in breastfeeding, marital fertility has fallen by almost 40 percent as shown in Figure 1. Again this is the opposite of what we would have expected from a reduction in breastfeeding, other factors being equal.

The main reason why fertility did not increase in Thailand as a result of reduced breastfeeding is that a

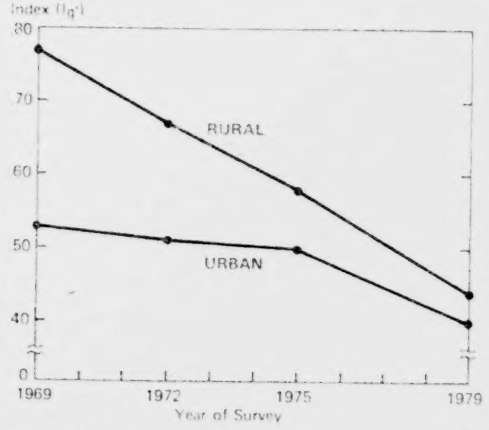

Figure 1: Index of Marital Fertility (Ig') in Thailand by Residence

Note. The index Ig' is an age-standardized index expressing the level of marital fertility as a proportion of the highest level recorded (namely, the Hutterites).
Source. Knodel et al.[1]

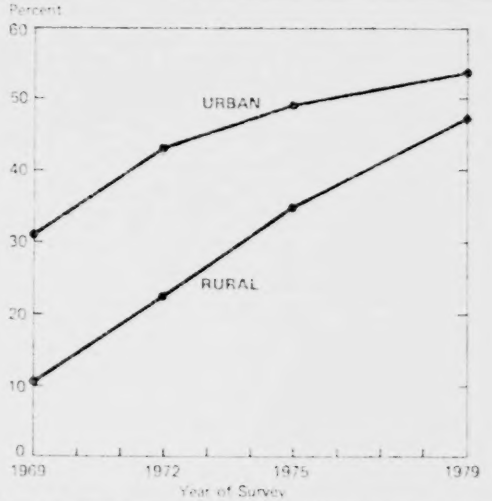

Figure 2: Percentage of Married Women 15-44 Using Contraception in Thailand.
Source. Knodel et al.[1]

massive increase in contraceptive use occurred at the same time, as seen in Figure 2. Among rural women in the reproductive ages, the percentage reporting current use of contraception increased from 11 percent in 1969 to almost 50 percent a decade later, according to the same surveys which served as the basis for our documenting the trends in breastfeeding. For urban women, the increase in current use was from 31 percent in 1970 to 54 percent in 1979. Clearly any fertility-enhancing effect of reduced breastfeeding was far more than compensated for by the increased prevalence of contraception.

In conclusion, changes in breastfeeding patterns in Thailand are not taking place in a vacuum but rather in the context of widespread socioeconomic change. Any assessment of the demographic significance of a reduction in breastfeeding must take this into account. So far, the compensating effects of these other socioeconomic changes have more than negated the potential for reduced breastfeeding to lead to higher infant mortality and marital fertility. The demographic impact of future changes in infant feeding practices in Thailand will depend on the extent to which the trend in these compensating influences continues. There is, of course, no automatic reason to assume that the potential of declining breastfeeding in the future for increasing fertility and infant mortality will continue to be offset. But if the recent past can serve as a guide, the prospects for this are encouraging. □

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Population and the President

Continued from page 1

Detailed Reagan budget proposals for these items will be announced in late March. The major proposed change will likely be that instead of being administered at the federal level, family planning funding will be incorporated (along with funding for other social services such as health, day care, elderly assistance, etc.) into block grants for the states. These block grants are expected to be at least 25 percent smaller than the funding they replace, saving perhaps $2.5 billion in FY 1982 and more in subsequent years.

Advocates argue that states would administer these programs more directly and efficiently. But the real debate (still going on within the administration itself) is whether such programs should be national, federal priorities at all. Indeed, the block grant approach to social services would result in the repeal of a host of federal laws and programs. Instead, each state would receive a block grant for, say, "preventive health services," and it would be up to that state to decide what to fund within that broad category (a state could spend 100 percent of the grant on family planning, zero percent, or anywhere in between).

In a conversation with reporters Jan. 29, Richard S. Schweiker, Secretary of Health and Human Services, spoke out against Medicaid payment for prescription contraceptives and U.S. support of sex education in schools, saying he did not think that these activities were the federal government's job. (While birth rates at all ages are falling, one out of every six babies in the U.S.—554,178 in 1978—is born to a teenage mother. About half of these are illegitimate.) Schweiker's comments were informal, but they may well indicate the direction the administration plans to go.

Foreign assistance: One of the Reagan administration's initial targets for budget cutting was foreign assistance; Office of Management and Budget Director David Stockman had originally targeted FY 1982 programs for a $2.6 billion cut; this was later reduced to $1.8 billion after heated protest from Secretary of State Alexander M. Haig, Jr., leaving the foreign assistance budget for that year at $5.3 billion. The cuts would come mainly from economic development aid.

During the Carter administration, population funding through the Agency for International Development had inched up by about 2 percent a year to $190 million for FY 1981. For FY 1982, the Carter administration had asked for a large increase in population funding to $346 million. Under Reagan, this population request has been scaled down to about $250 million, a much more modest increase but still the largest increase requested from any of AID's functional programs.

(The new Administrator of AID is M. Peter McPherson, a one-time Peace Corps volunteer who has served on such food-aid-related AID bodies as the Board for International Food and Agriculture and the Joint Committee on Agriculture Development, where he was chairman of the Latin American work group. Prior to his appointment, McPherson was President Reagan's acting White House counsel.)

The environment: During the campaign, candidate Reagan called for substantial deregulation and for environmental rules to be more "cost effective," without compromising efforts to safeguard the environment. As President, he and his new Interior Secretary *James G. Watt* will get their chance to show that this goal can be achieved.

This year the Clean Air Act, originally passed in 1970, comes up for renewal. In February, the National Commission on Air Quality released a report recommending modifications of some of the Act's measures, but retaining national air quality standards. For example, the report calls for loosening up some auto emission standards, and eliminating some rules for preserving air quality in areas of the country where the air is relatively clean anyway. But it also urges reduction of sulfur dioxide pollution in the Eastern U.S. to reduce acid rain. Some observers have seen these changes to be simply "fine tuning." The new administration will be considering the report and ultimately decide whether the Act should be left alone, fine tuned, or changed. What the administration decides to do about the Clean Air Act could provide a test of Reagan attitudes toward the environment, and the resulting debate and action by Congress could indicate something about the national consensus on these issues, as of 1981.

Other pressing environmental issues include the coming water shortage in the Southwest and possibly other parts of the country (exacerbated by rapid population growth caused by migration); water pollution; clean up of toxic wastes; occupational hazards; and the gradual diminishment of cropland as it is converted to other uses.

Population Implications

While the U.S. has no population policy, many issues have their population dimension—for example, reduction in federal funding for family planning could affect the nation's crude birth rate and hence, Aid to Families with Dependent Children. It could also affect the abortion rate.

During the past decade the gap between white infant mortality rates and those of nonwhites narrowed, but a significant discrepancy remains (for whites in 1978, the IMR was 12.0 deaths of infants under 1 year per 1,000 live births; for all other races the rate was 21.1). Since infant mortality rates are considered a good indicator of a nation's health status, the amount of funding for Medicaid and other health services could help determine the future trend of IMR and whether the gap between the races continues to narrow.

Life expectancy at birth increased by three years from 1970 to 1979, to 73.8 years (estimated), and is likely to keep creeping upward. Life expectancy reflects a nation's health status, including probably everything from medical advances to smoking trends to the national diet, but even here the

Continued on next page

59 percent of voting-age Americans took part in the 1980 presidential election, the U.S. Census Bureau reports. The percentage is roughly the same as the number of voters in 1976 but down sharply from a 69 percent voter turnout as recently as 1964. Broken down by race, 61 percent of white eligible voters went to the polls in 1980, compared to 51 percent of voting-age blacks and 30 percent of the Hispanic population.

Continued from preceding page

government can have some impact. (For instance, the fact that highway fatalities since 1974 have been 45,000 less than expected is believed to be the result of the 55-mile-per-hour speed limit.)

By the actions it takes to regulate legal and illegal migration, the federal government can determine how large a component of U.S. growth immigration becomes (currently, legal migration accounts for about 25 percent of U.S. population increase). And while no policy on *internal* U.S. migration has been formulated, the proposed cuts in aid to U.S. cities could have the effect of encouraging more migration from the Northeast and North Central states and their economically depressed urban areas to the mushrooming economies of the South and West. Even the recently proposed cuts in number of weeks of unemployment benefits could tend to induce people to move to the Sunbelt, rather than continue their job hunt a few more weeks where they presently reside.

Another, potentially explosive migration issue: Leaders of the Commonwealth of Puerto Rico foresee dire results for the crowded (3.2 million population) island if the proposed budget cuts in social services are enacted. Resident Commissioner Baltasar Corrada del Rio has predicted that up to 500,000 Puerto Ricans might migrate to the United States as a result.

(While decisions on these national issues are being made, attempts to write an official U.S. population policy into law will continue, as House hearings begin in March on Rep. Richard L. Ottinger's [D-N.Y.] bill; see INTERCOM, February 1981.)

A Government of People

What kind of population-related action is taken will depend in part on the personalities involved. One imponderable is Congress, which now has a Republican Senate and experienced major turnover in the 1980 election: now there are 56 senators who have served five years or less; the average number of terms per House member is now 3.74, the lowest in 25 years. (The House losers in 1980 had a thousand years of legislative experience among them.)

Appointments in the Executive Branch are also being watched with keen interest and some apprehension by population observers. Dr. *C. Everett Koop*, who has been a board member of at least two groups endeavoring to outlaw abortion, is said to be a prime candidate for the post of Surgeon General, while Marjory Mecklenburg, president of American Citizens Concerned for Life, another anti-abortion group, has been appointed head of HHS's Office of Adolescent Pregnancy Programs. (Mecklenburg has a reputation for being a responsible opponent of abortion, according to observers. She told the New York Times that her organization saw education to postpone sexual involvement as the first line of defense against adolescent pregnancy, not contraception, but that it was not necessarily advocating withholding contraceptives from sexually active teenagers.)

The Reagan administration also contains people with some experience or contact with population issues. As a representative from Texas, Vice President George Bush was one of the original cosponsors of domestic family planning legislation, as well as international family planning programs; he is against abortion. OMB's David Stockman was a moderately active member of the House Select Committee on Population. Defense Secretary *Caspar Weinberger* was appointed by President Nixon to lead the U.S. delegation to the historic 1974 World Population conference in Bucharest. To judge by events so far, Secretary of State Haig appears strongly in favor of orderly, significant foreign assistance as a tool of U.S. foreign policy and as a way to ensure U.S. security. James L. Buckley, who is Under Secretary of State for Security Assistance Programs, is known to be against abortion; he is also interested in environmental issues and is thought to be receptive to Global 2000-type arguments, and in his post at the State Dept., he will be playing a broker's role in allocating foreign assistance among different programs.

But what about President Reagan? The President has repeatedly endorsed the constitutional amendment outlawing abortion, and more recently said he favored the bill now before Congress that would attempt to write a legal definition of when human life begins (see page 13).

Except for abortion, what the President thinks and plans to do about population issues is not really known. Nonetheless, indication of Reagan's attitude may be found in his response to a question during a campaign news conference Oct. 14, 1980, in Los Angeles:

Question: *Governor Reagan, in Long Beach Vice President Mondale said that the fundamental difference between your campaign and the present Administration is reflected in the attitude toward the long-term global implications, like those outlined in the Global 2000 report. How do you propose responding to those long-term global implications of overpopulation, resource depletion and degradation of the environment?*

Reagan: "Well, the response must take into consideration what we can do to predict in the long term. I don't think anyone could, would not want to, do that.

"Again, I refer to my record. We thought in terms of population growth of our state here. That's why we added thousands of acres to our parks, to our state beaches and so forth. You find many of those state beaches today, on the hottest day of the summer, there's no one on them. But we were preparing for a future population increase.

"But I would also like to point out that you have to look at those projections into the future with some common sense, because there have been many such projections in the past. And those projections can only be based on what we know now. They cannot foresee what is going to happen, what is going to come in the line of technology and so forth.

"An example of that was a study commissioned by President Herbert Hoover, [which] wasn't completed until Roosevelt was President. [The study was] about a plan for time 20 or 25 years ahead of that particular period. [But] there was no mention in that prediction . . . of at least 15 or 20 things such as antibiotics, nuclear power, things of that kind. Not a single mention of all those things that came into being in the period of time they were prognosticating.

"We can go back further than that to the Malthusian Theory also. The world was going to starve to death. At that time they didn't know anything about artificial fertilizers. They didn't know anything about pesticides. And they didn't know anything about mechanical farming. It was a man with a hoe at that time.

"Now today there are studies, farm studies, based on the tillable land on earth, and based on [farming it] at the level of American farming worldwide, that the earth can support a population of 28 billion people." □

Status of the Abortion Battle

The proposed constitutional amendment to make abortions illegal was the focus as the National Abortion Rights Action League met in Washington Feb. 14-15 for its annual meeting. While the 1973 Supreme Court decision ruled that women had the constitutional right to choose abortion, actions by the anti-abortion movement since then have attempted to whittle away at access to abortion. And with a Republican majority in the U.S. Senate and a President who endorses the "right to life" amendment, pro-choice advocates at the NARAL meeting foresaw a continuing skirmish during the new 97th Congress on both the constitutional amendment and legislation fronts.

At present, there are a number of proposed constitutional amendments in the hopper in Congress. The majority contain wording such as "permitting only those medical procedures required to prevent the death of the mother." However, right now, chances of action on or passage of a human life amendment (which requires two-third majority in each house before going to the state legislatures for ratification) seem remote.

Not much has changed on the constitutional convention front. This is an alternate but never-used method of amending the Constitution, in which the U.S. Congress is not involved; instead, the state legislatures alone can call for a single constitutional convention, which once convened, can (many scholars think) change the Constitution at will. Since there are obvious perils involved with convening such a convention, calls for a constitutional convention to write an anti-abortion amendment have petered out after about 19 state legislatures (out of a required 34) passed such a call.

On the legislative front, anti-abortion forces have turned to a new tactic that parallels the constitutional amendment—proposed legislation intended to make a statutory definition of "life," namely, that "Human life shall be deemed to exist from conception." This legislation comes out of the 1973 Supreme Court decision declaring abortion legal, which then said that the law has not treated the unborn as "persons." Many questions surround this attempt at definition: whether Congress can define a term used in the Constitution, and further, whether they can make it a selective definition—the legislation makes the definition apply to the 5th and 14th amendments (guaranteeing due process). However, it does not seem to apply to "person" as meant in the rest of the body of the U.S. law (as, for example, dependents listed for tax purposes), and the legislation also includes language permitting medical procedures to save the life of the mother, further complicating the definition.

So the conflict continues between pro-choice groups and groups intent on outlawing abortion, eight years after the Supreme Court decision.

Interestingly, Roger Craver, a direct mail wizard (direct mail experts are always called "wizards"), mentioned at the NARAL meeting that the perennial mail campaigns to enlist support in a variety of causes end up being directed at a small segment of the U.S. population. There are perhaps 4 million active people on the political Left, he said, and another 4 million on the Right, and it is they who seem to contribute most of the time, effort, and money to their respective sides. The rest of the population, some 218 million, apparently stay well out of the fray. □

groups and events

The Population Council, with funding from the U.S. Agency for International Development, has organized an International Research Awards Program on the Determinants of Fertility in Developing Countries. The objective of the Program is to support research that will increase understanding of why and how human fertility changes in different cultural settings and under varying socioeconomic conditions. The program is organized as a competition based on peer review of research proposals. A Program Committee of distinguished social scientists provides policy guidance for the operation of the program, oversees the peer review process, and makes decisions on awards.

Proposals may be submitted by one or more individuals affiliated with an institution in developing or developed countries. Preference will be given first to proposals from developing country institutions, and second to proposals representing a collaborative effort between a developing country and another institution. For further information, contact: the Program Manager, Charles Keely, The Population Council, One Dag Hammarskjold Plaza, New York, N.Y. 10017.

The Southern Regional Demographic Group (SRDG) holds its 12th annual meeting in Little Rock, Ark., on Oct. 14-16, 1981. Papers dealing with any topic of demographic interest will be considered. Persons wishing to submit a paper for consideration should send two copies of a one-page abstract, along with the author's name, mailing address, and telephone number to the 1981 program chair, Dr. Anne S. Lee, 165 Tipperary Rd., Athens, Ga. 30601. Abstracts must be received by May 31, 1981, to be considered for inclusion on the 1981 program. Further information about SRDG may be obtained from the secretary treasurer: Dr. William J. Serow, Taylor Murphy Institute, University of Virginia, Dynamics Bldg., 4th floor, 2015 Ivy Rd., Charlottesville, Va. 22903.

The National Family Planning and Reproductive Health Association, Inc., holds its ninth annual meeting April 1-3, 1981, at the Washington Hilton Hotel in Washington, D.C. For further information, contact the organization at 425 13th St. N.W., Suite 350, Washington, D.C. 20004.

The National Alliance for Optional Parenthood (NAOP) has just published new resources for teachers, counselors, and others who work with adolescents. *Exploring the Parenthood Choice* is a curriculum manual of 20 activities to help teens explore the realities of parenthood. It introduces the childfree choice, and discusses the pros and cons of each option (price postpaid: $5.25). *Days of Decision* is an eight-page illustrated tabloid; in a soap-opera format, it tells the story of a girl named Chris. Will Chris decide to get pregnant because everyone thinks her son needs a brother or sister? *Days of Decision* tells the tale (price postpaid: 30¢ each, bulk prices on request). Contact: NAOP, 2010 Massachusetts Ave. N.W., Washington, D.C. 20036.

The International Center for Population and Family Health is offering workshops on Adolescent Fertility Management, in which participants will discuss the problems and consequences of early childbearing, explore alternatives, and design culturally specific approaches which can be applied to individual country programs of adolescent fertility management. Two workshop sessions are offered: June 1-26, 1981, and Aug. 31-Sept. 25, 1981. There is a tuition fee. For further information, contact the organization at 14130 9th St., Zion, Ill. 60099.

Refugees: from One Third World Country to Another

Refugees continue to constitute a world problem that demands immediate consideration and long-range planning, according to a recent article by Sarah K. Brandel in *Communique*, a publication of the Overseas Development Council. There are approximately 16 million refugees in the world today with the vast majority sheltered in those countries least prepared to assist them. Virtually all of the world's refugees are people who have left homes in Third World countries.

The Horn of Africa is the area of the world with the most serious refugee problem at present, Brandel says; 2 million people have fled from Ethiopia in the last year alone, seeking shelter in Somalia, Sudan, Djibouti, and Kenya. Southeast Asia remains another area of high refugee concentrations with 6 million Vietnamese, Kampuchean, and Laotians having fled war and persecution in their home countries. Afghanistan, Cuba, and mainland China contribute most of the remaining refugees in the Third World.

Almost 90 percent of this large population of Third World refugees move within or between Third World countries. Developed countries accepted about 1.7 million refugees in 1980. The majority of the refugees, then, settle in areas where resources are severely strained to begin with and a large outpouring of aid simply is not possible.

Says Brandel: "The fact that 14.3 million refugees have been allowed to stay and have been offered assistance by governments...[of developing nations] is evidence of cooperation and a humanitarian spirit sometimes overlooked by others outside the Third World. The developed countries—with their much greater wealth, organizational capacity, and resource endowments—are not alone in their generosity."

Asylum countries with limited resources receive invaluable aid from the UN, from voluntary organizations and from individual governments. But at present, each refugee crisis is treated as an individual problem with solutions provided on an ad hoc basis. Brandel stresses the need for more long-range planning to even out the amount of support given in various world regions; to attract more money for the U.N. refugee funds; to encourage the coordination of refugee assistance programs with existing economic development programs in the Third World; and to develop solutions that go beyond "giving emergency handouts to activities that encourage refugees to achieve economic self-sufficiency." Says Brandel: "Developments suggest that the old response to refugee movements—which viewed each situation as a temporary crisis requiring emergency relief—will not be adequate for the 1980s." □

286,000 foreign students studied in U.S. colleges and universities in 1980, the highest number ever. A third of the students came from OPEC countries, up from only 9 percent in the late 1960s. Iran sent more students than any other country, followed by Taiwan, Nigeria, Canada, Japan, Venezuela, Saudi Arabia, Hong Kong, India, and Thailand. Engineering, business, and management were the most popular areas of study for the foreign students.

Decentralizing Mexico

Every day, 1,400 more people migrate to Mexico City, a bulging metropolis that is well on its way to becoming the largest city in the world by the end of the century—and if present growth continues, an "urban anthill" of 32 million or more in 2000, unable to feed, service, or sustain itself.

To retard the trend and head off this dismal prospect, Mexican officials are implementing programs to encourage people and industry elsewhere by creating "rural population centers" along both coasts and the Mexican interior. Pipelines, electric power, transportation links, and capital investment are being provided, as well as large tax credits to encourage investment, employment, and energy use, the Wall Street Journal reports.

The Mexican capital has enjoyed centuries of preeminence as the social, political, and economic center of the country. In recent times, a vicious cycle has operated in which the city's massive population and industry have formed a magnet for more population and industry. Officials know they are bucking a trend—nonetheless, the goals of their decentralization effort are to reduce Mexico City's share of national industrial production down to 40 percent by 2000 (from the present 70 percent) and at the same time reduce its share of the total national population down to 15 percent (from the present 22 percent). □

Keeping Commodities on Even Keel

By the end of 1981, an international commodities "bank" should be in operation in the world marketplace to head off wide price fluctuations in such commodities as tin, rubber, and cocoa.

The Common Fund, as the bank is called, will finance national and international buffer stocks of commodities included in International Commodity Agreements. By buying for, and selling from, these stocks on the open market as necessary, the Fund can keep world prices from going up or down precipitously. Since less developed countries are often dependent on a single crop or mineral, such a fund can keep their economies more predictable and on a more even keel.

The 163 countries that belong either to the UN or its specialized agencies are eligible to join the Fund. Its funding will come 68 percent from the more developed countries, 17 percent from the USSR and Eastern Europe, 10 percent from the less developed countries, and 5 percent from China. The Fund will come into operation when 90 countries have signed its Articles of Agreement, a process expected to take about a year. □

positions/professionals

Associate, The Population Council, to fill three-year assignment in Tunisia as technical adviser to National Family Planning and Population Office. The adviser will provide guidance in program planning and administration of family planning rural outreach programs. This will include coordinating training needs, strengthening administration, supervision, and reporting systems as well as the design of information and education activities. Qualifications include M.D. with public health graduate training or doctorate in public health with experience in international public health; field experience in program planning and implementation in rural health and family planning programs; fluency in French and English; knowledge of Arabic desirable. Salary commensurate with qualifications and experience. Send curriulum vitae, including salary history, to Margaret McEvoy, International Programs, The Population Council, One Dag Hammarskjold Plaza, New York, New York 10017. The Population Council is an Equal Opportunity Employer M/F.

world food news

With the recent opening of a $3.5 million pyrethrum refinery, Rwanda, one of Africa's least developed and most densely populated countries, has signaled its intention to convert the natural abundance of pyrethrum flowers in the northern highlands into jobs for more than 20,000 people and an assured source of foreign exchange earnings.

The Rwanda project is based on the evidence that world demand for pyrethrum, the source of an environmentally safe but highly effective pesticide with increasing uses in agriculture, forestry and public health schemes, consistently outstrips supplies. The refinery, which is scheduled to process 1,600 tons of dried pyrethrum flowers in its first year of operation, will make Rwanda the world's third largest producer, after Kenya and Tanzania. To ensure the highest concentration of pyrethrins, the insecticidal extract, the large white flowers must be harvested in their full bloom, a labor-intensive task that already involves employment for more than 8,000 families.

Pyrethrins are far more effective than DDT, having an immediate, paralytic effect on flying insects. Yet they have a low toxicity rate on humans, and other mammals and plants, indeed, one of the lowest among all household insecticides. Once exposed to sunshine and air, they safely and rapidly decompose into a chemical form that is absorbed harmlessly into the environment. Pyrethrins are the active ingredient in many relatively expensive pesticides used in hospitals, hotels, camps, catering establishments, schools and households, as well as sprays for pets and livestock. Recent experiments have demonstrated that minute quantities, about 100 grams per hectare, can effectively control field insects for a brief period. Improved application techniques have led to a widening use of pyrethrins in agriculture, forestry, and vector control schemes.

The project has been supported by the United Nations Development Programme, the UN Industrial Development Organization, and the European Development Fund, as well as some firms in the private sector. Pyrethrum production is controlled by a local agricultural cooperative whose members comprise many formerly landless peasants who have been allocated a 0.3 hectare plot each by the government. They work the land under the supervision of rural extension officers. Local yields have nearly doubled during the past decade to about 1,000 kg per hectare. To be economically viable the new refinery must handle about 3,000 tons a year. In time, various subsidiary industries are expected to evolve, including the manufacture of insecticides in the form of sprays, aerosols, and mosquito coils.

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

grants/contracts

• Cornell University, Graduate School: **Effect of differential fertility and health on infant and child mortality,** B. Edmonston, investigator. This study is documenting the relative effect of fertility on childhood mortality in three nations with differing levels of cultural and economic development—Bangladesh, Jordan, and Peru. World Fertility Survey data will be used to assess the relationship of socioeconomic status and contraceptive use to fertility; health will be assessed as both a community and family variable; fertility will be measured using Brass techniques. These data will be analyzed using standard multivariate analysis. (Funding from Office of Population, U.S. Agency for International Development.)

• Johns Hopkins University, School of Hygiene and Public Health: **Use and nonuse of contraception among adolescents,** M. Zelnik et al., investigators. This continuing project is concerned with identifying the factors associated with the use or non-use of contraception among sexually active adolescent females 15-19 years old and males 17 to 21 years old; measuring contraceptive use in relation to situation factors; and analyzing changes in sexual activity and contraceptive use among young females since a previous survey in 1976. (Funding from NICHD, FY 1980 $69,679.)

• University of Hawaii System, Manoa Campus, John A. Burns School of Medicine: **Pregnancy outcomes in human populations,** M.M. Mi and C. Huang, investigators. This project will analyze two computerized population data bases (in Hawaii and British Columbia) for genetic and epidemiologic studies of pregnancy outcome. By means of computerized linkages, these records have been assembled into individual and family health histories on a population basis for analysis for risks of fetal wastage, perinatal and infant deaths, and congenital malformations. The analysis will be used to study familial recurrence risks of pregnancy wastage and to develop means for identifying high-risk families. (Funding from NICHD, FY 1980 $78,700.)

• University of California, Los Angeles, School of Medicine: **Filial crisis among the adult children of older women,** B.B. Houser and L.J. Beckman, investigators. This research examines the relationship between filial responsibilities and filial crisis among adult children. A survey of 600 subjects, estimated to be between 34 and 54 years of age, will be undertaken. Information will be collected from subjects organized by mother's marital status, either widowed or currently married and living with spouse. This information will concentrate on: the subjects' filial responsibilities; filial behaviors; quality and quantity of interaction with parents; filial crisis dimensions (anxiety, guilt, depression, and self-esteem); and background and demographic variables. The general hypothesis being tested is: that there is not a direct relationship between filial crisis and responsibility; instead, the relationship is moderated by other variables, such as the parent's and child's health, financial status, marital status, employment status, proximity between parent and child, quality of relationship, and the correlation between filial responsibilities and behaviors. (Funding from National Institute of Mental Health, FY 1980 $96,820.)

Vital Statistics Update

Provisional U.S. Vital Statistics: November 1980

Item	12 months ending with November					
	Number		Rate			
	1980	1979	1980	1979	1978	1977
Live births	3,580,000	3,463,000	16.1	15.8	15.3	15.3
Deaths	1,971,000	1,903,000	8.9	8.7	8.9	8.8
Natural increase	1,609,000	1,560,000	7.2	7.1	6.4	6.5
Marriages	2,400,000	2,364,000	10.8	10.8	10.4	10.1
Divorces	1,176,000	1,166,000	5.3	5.3	5.2	5.0
Infant deaths	45,100	45,000	12.6	13.0	13.7	14.1
Population base (in millions)	...	...	222.1	219.8	217.9	216.2

Source: Monthly Vital Statistics Report (Vol. 29, No. 11) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

POPULATION GROWTH, SOCIETY, AND CULTURE, by Richard Grey Sipes. New Haven: HRAF Press, 1980. 125 pp. $12.00; $6.00 paper. ISBN 0-87536-337-7; 0-87536-338-5. LC 80-81242.

Intended for social scientists, this book attempts to test the effects of social and cultural factors on population growth rate among 20 nonindustrial peoples in Africa, South Asia, North America, and Oceania. Using the cross-cultural correlation method, it reports the results of an empirical investigation of the relationships between population growth rate and 362 sociocultural traits and combinations. The value of the book lies not in its results, which were inconclusive, but in the fact that an exhaustive inventory of original hypotheses are tested, (with results displayed in tables) serving as a reference to other researchers testing similar hypotheses. A disquieting number of the author's beliefs and postulates were not supported by the data, showing how little we really know about human fertility and how much of what we think we know is not so. The author asserts the need for detailed demographic and ethnographic data on several societies, which must be collected in the field. —*Laura Lippman*

THE RACE FOR RESOURCES: Continuing Struggles Over Minerals and Fuels, by Michael Tanzer. New York: Monthly Review Press, 1980. 285 pp. $16.00 ISBN 0-85345-540-6. LC 80-18027.

The subject of this book is the world's mineral resources and the competition among firms and nations for their control. Tanzer's earlier book, *The Energy Crisis: World Struggle for Power and Wealth*, concentrated on oil and natural gas, whereas the main topics of this book are the other minerals and fuels that are central to the more developed world: coal, uranium, copper, bauxite, iron ore, and nickel. Although recognizing the implications of finite resources, the author avoids a crisis orientation by discussing possible, if difficult, alternatives. Emphasis is placed on how the mineral wealth that remains will be acquired and distributed. A historical review of the mineral industry is given with emphasis on the exploitative nature of most mineral development and the conflicts that such an approach precipitates. The current domination of the field by multinational corporations and their struggles with governments seeking to insure access to mineral resources are discussed in this context. The analysis is extended in Part II through case studies of each of the major minerals and of two of the more important multinational corporations. In the closing section the author turns to the future. The potential role of technology, i.e., extensive mechanization or more economical ways of processing lower grade ores, in changing the existing structure founded on control of high grade ore and low priced labor is discussed. Strategies likely to be followed by countries both demanding and controlling resources are explored, and a remarkably uncritical evaluation of resource development in several of the centrally planned economies is offered. Finally, an ideal pattern for future resource use is presented, stressing more enlightened consumption and more equitable distribution. —*Cary Davis.*

POVERTY AND MALNUTRITION IN LATIN AMERICA: Early Childhood Intervention Programs, by Ernesto Pollitt. New York: Praeger, 1980. 162 pp. $21.95. ISBN 0-03-058031. LC 80-18811.

This book looks at the problem of poverty and malnutrition in Latin America, focusing primarily on three countries: Peru, Colombia, and Venezuela. It is an attempt to close the gap between empirical research on early childhood education and human development and public policy, based upon the Ford Foundation's Office of Latin America and the Caribbean's review of "documents on the relationships between intervention strategies and malnutrition, sociocultural settings, mental development, and behavior; and . . .in-depth field study of the development of policy and programs in at least two Latin American countries." The findings of their study are presented clearly in nine chapters which include discussions of the general problem and magnitude of poverty in South America, the effects of malnutrition and poverty on a child's cognitive development, and specific conclusions about child development and early intervention programs in Latin America. A separate chapter is devoted to each of the three country case studies—Antioquia, Colombia; Puno, Peru; and Caracas, Venezuela. All three countries share a high degree of both absolute and relative poverty despite their various levels of economic development. A quite extensive bibliography—primarily Latin America-related—is also included in the book. —*Lisa Christine Olson.*

WORLD POPULATION: The Present and Future Crisis, by Phyllis T. Piotrow. New York: Foreign Policy Association, 1980. 80 pp. $2.00. ISBN 0-87124-064-5. LC 80-69582.

World Population: The Present and Future Crisis by Phyllis Piotrow is a new issue of the *HEADLINE Series*, published by the Foreign Policy Association. In this excellent review of the world population situation and possible future consequences, Piotrow outlines the following elements that need to be considered by policymakers: (1) unprecedented world population growth occurred in the 20th century; (2) most of the rapid growth occurred in developing countries, with slow growth in the developed countries; (3) there is a "dangerous" increase of young people—future jobseekers and parents—in developing countries that will continue until 2000. Piotrow points out: "Population growth is no longer a long-term problem that will arrive at some point in the future. The problems of population growth are here right now." *World Population* contains charts, graphs, illustrations, discussion questions, and a reading list. —*Patricia Cancellier.*

ORAL CONTRACEPTIVES ABSTRACTS: A Guide to the Literature, 1977-1979, compiled by Helen K. Kolbe. New York: IFI/Plenum, 1980. 563 pp. $75.00. ISBN: 0-306-65192-0. LC 80-23901.

Produced from the Popline data base (a computerized information storage and retrieval system that was developed and coordinated by the Population Information Program, Johns Hopkins University in collaboration with the Center for Population and Family Health, Columbia University), this bibliography consists of 1,058 abstracts from the international medical literature on oral contraceptives published in a three-year period. In addition to the bibliography, the volume contains a subject index, author index, and corporate author index. This second volume in the Population Information Library series will be a useful acquisition for population/family planning libraries. —*Barbara Bower*

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INTERCOM

the international population news magazine

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1981 Data Sheet Shows:

Population Pressures Increasi g on Less Developed Countries

by Carl Haub

World population is estimated to number nearly 4½ billion as of mid-1981, according to the *1981 World Population Data Sheet*, the annual country by country compilation of population statistics just published by PRB. At present rates, the 5 billion mark is only about six years away.

Furthermore, as the *Data Sheet* shows, virtually all world population growth is now taking place in areas which are already having difficulty supporting their present numbers—the less developed countries. As this century draws to a close, those poorer nations will probably claim an ever-increasing share of world growth as the low birth rates of the world's richer nations slowly end population growth in the more developed countries.

New to This Year's Data Sheet

Three countries appear for the first time on the *Data Sheet*: St. Vincent and the Grenadines, a Caribbean country that recently joined the United Nations, along with Belize in Latin America and French Polynesia in Oceania, which are included because the *Data Sheet* now lists all countries with populations of 150,000 or more (in previous years, the cutoff was 200,000). Countries with populations less than 150,000 do not appear on the *Data Sheet* for reasons of space, but their populations are included in the regional and world totals.

The *Data Sheet* also features a new column: number of persons per square kilometer of arable land. This column relates the number of persons to the available land which can reasonably be used for agricultural purposes. All in all, about one-third of world land is classified by the Food and Agriculture Organization of the United Nations (FAO) as "arable land or land under permanent crops" or "permanent pasture." The amount of land available for agricultural uses varies widely. One of the highest proportions is Uruguay's, with about 90 percent of the country considered arable; at the other end of the spectrum are countries such as Sweden

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	U.S.	All other countries
Individual	$ 25	$ 32.50
All students	5	6.50
Educator—primary/secondary	10	13.00
Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

Salk Among 10 New PRB Trustees

Ten new trustees were elected to PRB's Board of Trustees at the semi-annual Board meeting on March 24, 1981.

Nine other Trustees have come to the end of their terms and are retiring, including Board Chairperson Barbara L. Carter. Carter's successor is Trustee Michael P. Bentzen, who practices law with the Washingtom firm of Reasoner, Davis and Vinson.

The newly elected Trustees are:

Brent Ashabranner, writer, consultant in educational materials development and population program activities. Ashabranner has also served as Population Program Officer, the Ford Foundation, Jakarta; Senior Program Consultant, Family Planning International Assistance; and Deputy Director, the Peace Corps, among other posts.

John C. Beyer, President, Robert Nathan Associates, Washington, D.C., and formerly Ford Foundation consultant to the Indian Planning Commission and Nepal Ministry of Finance.

Wallace Bowman, currently Executive Director of the Commission on Natural Resources of the National Academy of Sciences. He is also Trustee of the Conservation and Resource Foundation, and has served as chief of the Enviromental Policy Division of the Library of Congress's Congressional Research Service.

John H. Bryant, Deputy Assistant Secretary, International Health, Dept. of Health and Human Services. Bryant was formerly Dean of Medicine, University of Vermont, and Rockefeller Specialist in Public Health, in Bangkok.

Joseph L. Fisher, Director, Economic Policy Dept., the Wilderness Society and Visiting Fellow, George Mason University. Fisher is a former Member of Congress from Virginia and a former Associate Director of Resources for the Future.

Jonathan P. Hawley, Vice President, Newmyer Associates, Inc. He has also served as Assistant Minority Counsel to the Committee of Ways and Means, U.S. House of Representatives, and was formerly Professor and chairman of the Dept. of Political Sciences, Tulsa University.

Robert Jordan, Senior Assistant Editor for Special Projects, *National Geographic Magazine*. Jordan has served as Assistant Sunday Editor for the *Washington Post* and in other editorial posts.

Douglas Parsons, President, Frank Parsons Paper Co., in Washington, D.C.

Raymond Potvin, Chairman, Dept. of Sociology, the Catholic University of America. Potvin has served as consultant to the Center for Population Studies, Georgetown University.

Jonas Salk, physician and scientist, and founding director of the Salk Institute of Biological Studies, San Diego, Cal. Salk is probably best known for developing the Salk vaccine for the prevention of poliomyelitis.

Besides Chairperson Bentzen, the Board elected Trustee Jessma Blockwick, to be Secretary, outgoing Trustee Bert T. Edwards to be Treasurer, Trustee Robert P. Worrall to continue as President, and Norma Mitchell to be Assistant Secretary.

The following Trustees are retiring: Virginia Allan, Barbara L. Carter, Bert T. Edwards (who continues as Treasurer), James R. Echols, Kathleen McNamara, Mildred Marcy, Francis X. Murphy, John Reid, Caroline Saltonstall, and William O. Sweeney. □

Cuba's Fertility and Migration 'Revolutions'

At just 0.9 percent a year, Cuba's rate of natural increase (births and deaths) currently ranks with those of Barbados and Martinique as the lowest of all less developed countries in the world. The 1979 birth rate of 14.8 per 1,000 population in this Caribbean island nation of 10 million people was a point below the U.S. birth rate in that year and down 58 percent from the 1963 peak of the brief baby boom which followed the 1959 ousting of dictator Fulgencio Batista and takeover by the revolutionary movement led by Fidel Castro.

Cuba's spectacular fertility decline is popularly credited to the "modernization" of fertility norms triggered by the touted post-1959 improvements in education, health, and women's status, elimination of rural-urban economic disparities, and guaranteed jobs for all, plus increasing availability of modern contraceptives and legal abortion. But demographers Sergio Diaz-Briquets and Lisandro Perez speculate in PRB's *Bulletin* for April, "Cuba: The Demography of Revolution," that another factor could be the housing and consumer goods shortages of a deteriorating economy "which have thwarted the growing aspirations of much of the population."

Persistent social and economic discontent also explains the motives of many of the more than 800,000 Cubans who have "voted with their feet" to leave the country since 1959, the authors feel, particularly the some 125,000 who fled to the U.S. in the five-month "Mariel sealift" of 1980.

The Western Hemisphere's first socialist nation has made "undoubted progress in many social areas," say the Cuban-born *Bulletin* authors. Cuba's life expectancy of 72 years is now just two years short of the U.S.'s. Virtually all children aged 6 to 12 were in school by 1976 and 78 percent of those 13 to 16. And although "efforts to increase women's employment have not met expectations," women's status improved with the 1975 passage of a Family Code that "proscribed sex discrimination even within the home."

But the main beneficiaries of the post-1959 reforms have been the rural population. As "the bulwark of the revolution" the rural populace has been of special concern to the leadership and most long-range development has taken place in rural areas, Diaz-Briquets and Perez state. The "modernization" explanation for the fertility decline seems valid for this group, they feel, but not so much for the urban poor and "not-so-poor."

Birth rates rose sharply among these "historically more modernized" groups when aspirations inspired by U.S.-influenced consumption patterns of the better-off in prerevolutionary Cuba "began to seem reachable" with the improvements in their living standards that came with rent cuts and other early income redistribution measures. But for urbanites the postrevolutionary economic gains were short-lived, the *Bulletin* authors observe. Their expectations were dashed by the deteriorating economy of the 1960s, aroused again with an economic upturn in the early 1970s, and dashed again after 1975 when soaring energy costs plus crop failures and plummeting world prices for sugar—Cuba's main export—left the economy facing what Castro himself described as "a sea of difficulties." The urbanites' reaction has been a "drastic curtailment of fertility," the *Bulletin* authors claim.

This unique, "more comprehensive explanation of Cuba's fertility decline makes it questionable that poor, high fertility countries around the world might draw a lesson from Cuba's experience, as has been often asserted."

The dashed hopes of those who expected most from the revolution appear to be an increasing explanation for the continuing exodus from Cuba. Early emigrants among the nearly 800,000 who arrived in the U.S. between 1959 and 1980 "were largely displaced elites." By the 1970s, however, emigrants included many more urban blue-collar workers—"members of the proletariat whose exodus was viewed by many as an embarrassment to the Cuban government," state Diaz-Briquets and Perez.

As allies of the U.S. in its strained relations with the Castro government and bolstered by the Cuban Refugee Program, Cuban emigres have generally adjusted well to the U.S., they say, although few have achieved the Horatio Alger–like success painted in the media. Settled mainly in the Miami and New York City areas, Cubans are now the third largest Hispanic group in the U.S., after Mexicans and Puerto Ricans, and their 1978 median income of $15,326 was the highest of all Spanish-origin groups.

But adjustment may take far longer for the Mariel sealift emigrants. The sudden 1980 influx of 1 percent of Cuba's population coincided with a faltering U.S. economy, large influxes of refugees from Vietnam and Haiti, and stepped-up publicity concerning illegal immigration from Mexico. As an example of the cooled climate for Cuban—and all Latin—immigration, the *Bulletin* authors note that in Florida, where most Mariel Cubans have opted to settle, white, non-Hispanic residents of Miami's Dade County last November voted overwhelmingly to eliminate the county's bilingual status and prohibit public funding "to promote a culture other than the culture of the United States." Relations between Cuban settlers and their U.S. hosts could be further strained if conditions in Cuba prompt another mass exodus to the U.S.—a possibility suggested by President Castro himself—Diaz-Briquets and Perez conclude.

Diaz-Briquets is currently director of PRB's Compilation and Analysis of Demographic Data Project and Perez is Associate Professor of Sociology at Louisiana State University. Both have published and conducted extensive research on various aspects of Cuba's pre- and post-1959 demography.

Additional copies of their 41-page *Bulletin* (Vol. 36, No. 1), "Cuba: The Demography of Revolution," may be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013, at $2.00 per single copy; 2-49 copies, $1.75 each; 50 copies or more, $1.50. Colored slides of the *Bulletin*'s 13 tables and figures and frontispiece map are available at $6.50 per set. For mailing inside the U.S., add 50 cents on orders of $5.00 or less. Outside the U.S., add 25 percent to the cost of all items ordered to cover handling and postage. □

I would select the world population explosion [as the greatest challenge confronting the Western World in the 1980s] for two reasons: the main increase in the population is expected to be in the less prosperous nations, and this will inevitably increase their relative poverty, [and] pressures on the more prosperous nations to share out their prosperity will increase in proportion. The corollary to increasing world population is that both the relative and the actual decline in natural resources . . . inevitably lead to higher prices.

—His Royal Highness, the Duke of Edinburgh

Immigration Levels Could Decide Future U.S. Population

Immigration—legal and illegal—accounts for nearly half of the population growth now occurring in the United States, states a new report on "The Impact of Immigration on the Size of the U.S. Population" by PRB's director of Demographic Research and Policy Analysis, Leon F. Bouvier. As the U.S. enters the 1980s, the combined effects of record-high immigration levels and low fertility among American women means that immigration will play an increasingly important role in population growth for the foreseeable future, the report says. If net immigration averaged 1 million per year and U.S. fertility resulted in an average of 1.8 live births per woman—not too different from the present situation—by the year 2080 almost 40 percent of the U.S. population would consist of post-1980 immigrants and their descendents.

The striking impact of both legal immigration, now at an annual level of about 700,000, and illegal immigration, according to various estimates ranging between 100,000 and 500,000 yearly, on U.S. population growth is becoming a major concern among U.S. policymakers, according to Bouvier, whose paper analyzes in detail the effects that different immigration limits might have on U.S. population size.

If legal and illegal immigration was to continue at the current combined level of around 1 million per year, and if there was no change in America's recent fertility rate of 1.8 children per woman, the U.S. population would climb to over 310 million in just 50 years—up one-third from (the Census Bureau estimate for 1980) 222 million, the report says. Without immigration, U.S. population 50 years from now would be only 245 million, according to Bouvier's projections. Thus immigration at current levels would alone account for an additional 65 million people in the country by the year 2030.

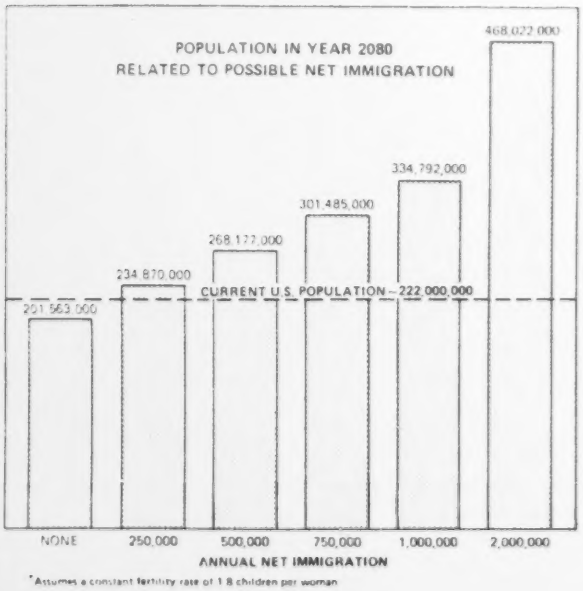
Over time, the impact of immigration on U.S. population growth will become even stronger if America's childbearing habits remain the same, says Bouvier. The level of annual net immigration could become the sole contributing factor to population growth. Even if net immigration was reduced to 500,000 a year, he notes, it would still account for 26 percent of America's population growth over the next decade. By 2000, about half of all growth would be accounted for by net immigration, and by 2020-2030, *all* population growth would come from net immigration as the rate of natural increase declined because women continued to have an average of fewer than two children.

The 20-page report, believed to be the most detailed analysis so far of the demographic effects of current U.S. immigration proposals, is the first in a new series of occasional PRB papers, entitled *Population Trends and Public Policy*, to be devoted to the discussion of timely demographic or population issues of particular concern to legislators, government officials and other policymakers in the nation.

The second paper in the series, "Immigration Changes and U.S. Population Distribution," scheduled for publication later this year, will look at the effects continued immigration will have on selected states and regions of the country. In addition, this report will discuss the impact of immigration on age-sex composition, school enrollment, labor force participation, and number of elderly. □

To obtain a copy of "The Impact of Immigration on the Size of the U.S. Population" by Leon F. Bouvier, send $1.00 (to cover postage and handling) to PRB, Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036.

The Impact of Immigration on U.S. Population Size*



*Assumes a constant fertility rate of 1.8 children per woman

Synthesized Drug Offers Hope Of Twice-a-Month Pill

University of Missouri scientists have developed an economically feasible way to synthesize Dinordrin, a recently discovered drug that could be the basis of a twice-a-month birth control pill for women.

Previously, a prohibitively expensive procedure was required to process Dinordrin from diosgenin, a substance extracted from the roots of certain wild plants growing in China, Central America, and northern India.

But Pierre Crabbe, working with Lothar Bieber and Ben Nassim, developed a cost-effective method that starts with two common, inexpensive chemicals and, eight lab steps later, produces Dinordrin. This work, sponsored by the World Health Organization, was begun at the University of Grenoble and finished at the University of Missouri—Columbia.

Dinordrin is 20 times as effective as Anordrin, the chemically similar ingredient used in China's so-called "vacation pill." It functions by preventing implantation, and when fully developed as a contraceptive could be marketed as a contraceptive pill that need be taken only twice a month.

Crabbe, who is chemistry department chairman at the University of Missouri—Columbia, reports that Chinese laboratories are now using the new procedure. Dinordrin could be in use as a contraceptive in China in three to five years. (In the U.S. and most western nations, however, the time used to test a new contraceptive before marketing is much longer, so it could be anywhere from 11 to 17 years before Dinordrin is in use there.) □

Annual Meeting—Part I

Meeting in Washington, PAA Celebrates 50 Years

Washington, D.C., was the backdrop March 26-28 as the Population Association of America held its 50th annual meeting at the Washington Hilton Hotel. For demographers and other specialists, the 50th meeting was time to reflect on how far the field has come since the first annual meeting in New York in April 1932, with two sessions attended by 38 persons.

The 1981 meeting, by contrast, saw some 1,200 attendees from all walks of population meet to give papers, attend sessions, mend fences, and assess what proposed federal budget cuts could mean to demography and related fields. This time there were some 69 individual sessions, plus related activities. A sampling of some of these sessions and highlights reported by PRB staffers appears below:

Carl Haub

PAA members congregate outside Hilton session rooms

Psychosocial Meetings For two days prior to the PAA meetings in late March, the ninth annual Workshop on Psychosocial Factors in Population Research met in Washington, D.C. The Psychosocial Workshop is a once-a-year assembly of psychologists, sociologists, and other professionals interested in the human interactions behind population statistics.

Presentations at the workshop, while structured and data based, are informal. Whenever possible, participants gather in a circle or semicircle and those reporting their research findings do so in a brief conversational manner. Questions, comments, and dialogue between presenters and participants is an encouraged and expected part of these sessions.

During one of the sessions, Betty Cogswell of the University of North Carolina described the variety of households in U.S. society: single-person (separated, divorced, widowed, never-married) the fastest growing household size; cohabitation of a heterosexual couple; cohabitation of a homosexual couple; the nuclear dyad without children; the nuclear dyad with children (some with both parents working, some with father only working); the reconstituted nuclear family in which at least one spouse was previously married with children; the single parent family; the commune and the rarer *menage a trois*. She asked, "In a single lifetime, how many of these forms will an individual live in?"

Andrew Cherlin of Johns Hopkins University posed some questions for research about unmarried cohabitation, better known as "living together." Does it delay marriage? Does it decrease the likelihood of divorce? Does it delay or decrease childbearing? So far there is little data on the consequences of cohabitation.

Sandra Hofferth of the Urban Institute noted that an increase in the number of one-child families could reduce the divorce rate since couples with one child have a lower probability of divorce than those with other family sizes. Nancy Russo of the American Psychological Association discussed the implications of the dramatic shifts in living patterns in the U.S. for public policy. Fifteen percent of all preschoolers now live in one-parent families and approximately half of all children under six years old have mothers in the labor force. What will be—should be—government's response in terms of day care, flexible work hours and other arrangements?

John Kantner of Johns Hopkins University reported a 64 percent increase in sexual activity among U.S. teenagers from 1971 to 1979 with white teenagers' sexual activity increasing 81 percent. There was also an increase in the percent of pregnancies: in 1971, 8½ percent of all teenage women had been pregnant but by 1979, that figure was 16 percent.

Judith Seltzer of AID reported that in 1971, 70 percent of teenagers were opposed to premarital sex; in 1976, 35 percent were opposed. These attitudes varied by race and status of sexually active or inactive. Black teenagers were more sexually active and had more tolerant attitudes towards premarital sex than white teenagers. Friendships, religiosity, and the strength of a teenager's relationship with parents were significantly related to sexual activity or inactivity.

Perhaps the most vivid presentation was Hannah Meara's of Chicago Associates for Social Research. She used transcripts of taped interviews with teenaged clients to demonstrate the ambience in which some adolescent sexual relationships take place. They revealed in the teens' own words the emotional, nonrational, and very human side of the perplexing problem of teenage pregnancy. Meara noted that most of the researchers in this area were probably highly rational planners who themselves would not dream of carelessness in terms of contraception.

APLIC. The Association of Population/Family Planning Libraries and Information Centers/International held its 14th annual conference at the Washington Hilton March 23-26, overlapping with the PAA meeting. After an all-day course of library management and planning, the conference proper got underway with a keynote speech by Ambassador Richard E. Benedick, Coordinator of Population Affairs, U.S. Dept. of State. Ambassador Benedick talked about the U.S. role in formulating, transmitting and influencing policy internationally. The United States is strongly in favor of population policies, internationally; the State Department with AID collaborates with the UN and other agencies to keep population at the forefront of world agendas, and to encourage Third World leaders to promote population policies in their own countries.

The rationale for the session "Making Population Policy: A Dialog" was that information does not flow directly from an organization or library/information services to decision makers without going through a lobbyist or other population activist. It is important, therefore, for the librarian or information specialist to understand the functions and needs of the population activist. Wednesday's topic was "Integrated Approaches to Population: Information Resources." The introduction and overview were given by Ozzie Simmons, of the Ford Foundation, who discussed the need for primary health care and the kinds of information required for the research and analysis involved in overcoming the obstacles to universal health care in developing countries. Workshops were given on such subjects as information resources in health, environment and natural resources, food and nutrition, and women and development, international census: networking for libraries, accessing US federal population information. At the annual meeting, Alice Harris of the East-West Population Institute was elected president for 1981-82.

The New Demographic Practitioner: Broadened Opportunities for Employment. While lawyers and judges are articulate and bright, most do not understand basic demographic trends, said Reynolds Farley of the University of Michigan, who has spent many hours in the role of "expert witness" in the courtroom. He advised any demographers who want to contribute their consulting services to the legal profession to charge a high fee. "Perceived credibility is related to cost." (In other words, it's not what you know, it's how much you cost.) Peter K. Francese of *American Demographics*, the session moderator, agreed. He said demographers should double or triple their daily rate so lawyers will perceive them as "very learned and quite valuable."

Continued on next page

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Michael Batutis of the New York State Department of Commerce told the session's participants about another area of employment for demographic practitioners: state and local governments, where the demographer might not have to have a deep knowledge of particular subjects, but needs a broad, clear knowledge of the trends and components of population change. While Batutis warned that there might be "interminable meetings on issues that are never resolved," Norfleet W. Rives of the University of Delaware also pointed out that the government demographer should not count on doing much research. Especially in small states, where the demographer is not buried in a vast buraucracy, research seldom is carried out because it is "not a popular item with the voters." Most of the work involves federal data requirements such as providing smaller towns with some very simple information that they cannot obtain elsewhere.

A. Dianne Schmidley is one of three demographers who work for AT&T, the largest corporation on earth. Yet despite the obvious need for demographic information in many areas of the Bell service system, Schmidley says there is still a gap between the persons gathering data on the demographic characteristics of telephone customers, and those who use this information. She hopes to correct some of the misunderstanding that occurs by conducting in-house seminars for AT&T employees.

Fecundity, Infertility, and Reproductive Health. Joseph McFalls Jr., of Temple University, said "too much 'credit' for infecundity has been given to venereal disease." Genital tuberculosis is an important cause, he reported, but is difficult to observe. Some 70 percent of blacks in Africa under age 14 are affected—Cameroon is the highest. 35 percent of infertile people in Sweden age 20 to 40 are infertile because of genital TB. TB is as important a cause of infertility in U.S. blacks as venereal disease; in 1960 VD was responsible for 5 percent of infertility and TB 7 percent.

Jeff Sobal, Gettysburg College, reported on the relationship between obesity, fecundity, and fertility in the U.S. Obese women use the motherhood role to escape the social stigma attached to them. They bear more children than slimmer women; avoid contraception more often; see children as a "source of power"; have a higher rate of pregnancy; have a higher rate of failure because of incidence of disease (but this is offset by having more pregnancies).

International Labor Migration: Comparative Experiences and Lessons for Policy. The paper by Mostafi Nagi, Bowling Green State University, outlined some of the demographic issues in the Middle East. The unequal distribution of wealth within the region has led to substantial amounts of labor migration. While this acts to decrease the economic differences between the oil-rich and oil-poor nations and offers advantages to both, it has created problems as well. Sending countries have their national wealth increased by remittances sent home by workers living abroad but can become overly dependent on this transitory arrangement. Further, there is some question as to the usefulness of remittances in national development plans. It may be that these funds are directed toward imported consumer goods and therefore do not add appreciably to investment capital.

The capital-rich countries, which in most cases have small populations, can draw on the skilled labor pools of their neighbors without having to absorb the training costs. Thus they can rapidly advance to industrial status even without a great deal of infrastructure. However, as a result of the migration, these receiving countries may end up experiencing some cultural dissolution and heightened social and political instability.

Josh Reichert, Duke University, presented a paper on guestworker programs of particular interest to those struggling with the issue of U.S. immigration policy.

The implications of establishing a guestworker program were appraised in light of our World War II experience with the "Braceros" program and the more recent European ventures. The author's primary message was that migrant labor arrangements are not temporary. Immigrant streams, once established, survive through their own inertia. Through the migrant communication network, contacts which provide a resource to jobs, housing, and services are made. High wages, relative to the country of origin, encourage an orientation to consumer goods which, because they are not available in the home country, increase the dependence on foreign income. Workers are discouraged from returning to find jobs at home because the skills they obtain in an industrialized economy are not relevant there. A cyclical flow between country of destination and origin can be expected as long as temporary workers are encouraged. Whenever a threat to easy access arises, migrants and their families will rationally attempt to establish themselves in the host country. Reichert did not suggest that we do not consider a guestworker program, but rather that we approach such a proposal with a realistic appraisal of the likely consequences.

Fertility Trends and Policy in Western Europe. In a session on Western European population trends and policies, Henk Heeren of Utrecht University (the Netherlands) reported that low birth rates continue to worry West Germany and France, and some German states and France have increased marriage and child allowances, though still not enough to encourage larger families, Herren felt. On the other hand, the British public seems indifferent to the U.K.'s recent dip in births below the level of annual deaths and the Netherlands government has gone on record as welcoming the imminent end of population growth there. In the same session, Alison McIntosh of the University of Michigan said that in France the chief worry seems to be that it could be nonnatives who will account for what little excess of births over deaths there may be in the future, while Swedes are embarrassed to push for resumption of population growth at home because Sweden was the first developed country to fund family planning in the Third World (in the 1950s) in an effort to slow global population growth.

Latin American demography. Infant growth in rural Guatemala and how it is affected by family size was the subject of a paper by Carol Clark of the Rand Corporation, who was unable to attend the meeting. She noted that in Guatemala, like in other Cental American countries, many children are malnourished (70-80 percent) and suffer growth retardation. Maternal health plays an important role in the infant's height and weight during the first six months of life, while food, child care time and crowding become more important during the second six months, Clark found. And to improve the situation, she proposed increased spacing between births, more efficient nutrition programs, and extended child care time.

In the Dominican Republic no relationship was found between women's employment and fertility, according to Douglas T. Gurak of Fordham University, who in his work with Mary M. Kritz of the Rockefeller Foundation found that type of employment did have some influence and that the average age of marriage in that country is going up.

Urbanization is the strongest variable in the use of contraception in Mexico, reported Whitney Hicks, University of Missouri, and Romeo Madrigal and Raymundo Rodriguez, Universidad Autonoma de Nuevo Leon. Using data from the National Family Planning of Mexico, they found that contraceptive use increases by 15 percent in cities with a population of 20,000 or more people, apparently because contraceptives are easier to obtain and children cost more than in rural areas.

In the past 10 years, some unexpected changes have been taking place in the pace of mortality decline in Latin America, reported Alberto Palloni, University of Wisconsin-Madison, who pointed out that most Latin American countries have experienced a sharp slowdown in the rates of gains in life expectancy and that infant and child mortality has remained at higher levels than those expected given overall levels of mortality.

Forms of Impermanent Mobility: Emerging Insights. Although the phenomenon of circular migration is not new and has been studied by anthropologists, sociologists, and economists, this session, led by Sidney Goldstein of Brown University, was the first PAA session devoted to the subject of temporary migration and impermanent mobility.

Continued on next page

FIRST
ANNUAL MEETING

of the

POPULATION ASSOCIATION of AMERICA

TOWN HALL CLUB

123 West Forty-third Street, New York City

❖

April 22 and 23, 1932

Cover of the program for PAA's first annual meeting, which was attended by 39 people.

Continued from preceding page

Graeme Hugo of Flinders University of South Australia spoke on the scale, causes, and consequences of impermanent mobility in Indonesia. Traditional methods of measuring migration through the use of census or survey data tend to miss impermanent migrants. Further, the idea that a work place coincides with a dwelling place simply does not hold in Indonesia. Hugo found that the residents of the village he studied maximized their earning potential by working in both their native village and the city at each respective peak season for labor. In this way, the area of origin provided emotional support, and was the area in which the migrant spent, consumed and invested, and the city provided a means of supplementing the family income. The economic significance of this pattern for planning and investment policy was mentioned.

Hugo also offered a sociocultural explanation for temporary migration—it is apparent that mobility is often a rite of passage in many communities; if the person did not move, he would be the subject of derision within the community. The matrilineal kinship system also contributed to the prevalence of migration, so that it has become institutionalized in many groups.

The study by Kenneth Roberts, University of Texas at Austin, of four Mexican villages provided new insights into the factors that produce circular migration. In contrast with expectations, those communities that were experiencing agricultural development, which stimulates the demand for seasonal labor, were the main source of circular migrants. In poorer areas, where return migrants would have few prospects for employment, migration tended to more permanent.

The likelihood of circular migration is also related to household size. The greater the number of adults in the household, the better able the unit is to support the risk of one member migrating to find work. It was common for such households to sponsor such moves annually although the migrants so sponsored might not necessarily be the same individuals year after year.

Murray Chapman, currently at the East-West Population Institute, summed up the session stating the significance of detailed field studies of migration in challenging the findings of normal migration studies using traditional measures. He mentioned the variations of and experimentations with different time periods with which to identify migration—from three months, to overnight stays to six hours, and pointed out the lack of any theory to decide which to use.

Infant and Child Mortality in Developing Countries. A most interesting paper on infant mortality which was based on data on 5,357 singleton live births from the Malaysian Family Life Survey (conducted in 1975-76 by the staff of the Rand Corporation), was presented. Jean-Pierre Habicht of Cornell University and William P. Butz and Julie DeVanzo of the Rand Corporation examined the biological, family, and community influences on mortality change at various stages over the first year of life. Some of their major findings include the following:

"A large component of the association between breastfeeding and mortality is due to the fact that breastfeeding is short because the child died or to third factors that both curtail breastfeeding and cause death. Nevertheless breastfeeding fosters survival.

"Holding breastfeeding constant, babies supplemented or weaned on commerical baby foods have lower mortality than other babies.

"Mortality risk of low birthweight extends through the first half of infancy. It disappears more quickly for breastfed children."

Using the WFS data from Sri Lanka, C.M. Suchindran and A.L. Adlakha, both of the University of North Carolina at Chapel Hill, examined the determinants of infant mortality and the effect of infant mortality on fertility. They found that the death of the previous child is the most important predictor of infant mortality. When examining the effects of other socioeconomic variables they found that the mother's work habits and her education have a significant effect on the survival of the infant as does the husband's level of education (i.e., an increase in the level of education causes a decrease in the level of infant mortality). When examining the effects of infant mortality on subsequent fertility by use of regression analysis of life tables of birth intervals, they found that infant mortality has a substantial effect on fertility of Sri Lankan women (i.e., it shortens the period of postpartum amenorrhea, thus shortening the birth interval, and if the last child dies it increases the chances of the woman having another child). However, the present analysis does not support the child replacement hypothesis.

Demographic Perspective on U.S. Immigration Policy. Leon Bouvier, Director of PRB's Demographic Research and Policy Analysis, served as chairperson for this session.

Robert Bach, State University of New York at Binghampton, discussed problems in defining "refugee" and the need to distinguish between political and economic refugees. The socioeconomic characteristics differ widely between the two types: the political refugees are likely to be better educated and trained; the economic ones are likely to be poor and less educated. The U.S. must re-evaluate its refugee policy given the continuous flow seeking to enter the country.

Vernon Briggs, Cornell University, concentrated on the impact of illegal immigration, particularly on the labor force. He argued that it is a waste of time to try to develop estimates of the size of illegal immigration; that we know it is a large problem and should try to eliminate it insofar as possible. He disagreed strongly with the views of Cornelius and Piore, who have maintained that illegal immigrants do not negatively affect the poor and minorities in the U.S. as they seek employment. Indeed, according to Briggs, the opposite is true.

Charles B. Keely, the Population Council, concentrated his remarks on the quality and relevance of population projections. He urged caution in making projections and suggested more care be taken with selecting appropriate assumptions. While not advocating a moratorium on projections, he urged more care in the claims made by projectionists and more scepticism by those who read the work of projectionists.

Rep. James Scheuer (D-N.Y.) made it clear that while he favored continued limited legal immigration to the U.S., he was strongly opposed to allowing illegal movements to continue. He suggested that employee sanctions and work cards might be approved by the Congress in the near future. He also felt that the problem of immigration to the U.S. will not go away as long as population growth continues at such a pace in developing countries; and that the U.S. should assist these countries in their attempts to lower their fertility and thus alleviate immigration problems.

INTERCOM's PAA coverage concludes next month in the May issue, with further sessions, Presidential Address, "Fun Run," and final comments.

demographer's page

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Indonesia's 1980 Census: 5 Million More Than Expected

by Morrie K. Blumberg

The Indonesian population reached 147,383,075 in 1980, according to the provisional results of a nationwide census that Indonesian President Suharto released during his annual budget message on Jan. 5, 1981.

The Indonesian Central Bureau of Statistics (CBS) conducted the nationwide population census in October 1980.

The President stated that the average annual growth rate since the last census in 1971 was 2.34 percent per year. The growth was influenced by successes in family planning and by mortality declines, the President stated, as he pledged that health and family planning achievements will continue to expand. A disaggregation of the provisional census results can likewise be used to help understand some of the dynamics of the Indonesian population.

1980 figures for Indonesia are summarized below:

Provisional census total[1] for Indonesia Oct. 1980:	147,383,000
Average annual growth rate 1971-1980:	2.3 percent
Prior projection,[2] 1980:	142,297,000
Average annual growth rate, 1971-1980, based on prior projections[2]:	2.0 percent
Difference between 1980 Census and prior projection:	5,085,000
Estimated contraceptive users as percentage of married couples of reproductive age[3]:	32 percent

[1]Derived from Central Bureau of Statistics, 1980 Population Census: Provisional Totals (Jakarta, 1981).

[2]Derived from Central Bureau of Statistics, Statistical Pocketbook of Indonesia: 1978/1979 (Jakarta, 1981).

[3]Derived from National Family Planning Coordinating Board, Monthly Statistical Summary: October 1980 (Jakarta, Recording and Reporting Bureau, 1980).

Sizes of populations in the 27 provinces of Indonesia ranged from 552,954 in East Timor to 29,175,269 in East Java. Province-wide annual average rates of population growth during the 1971-1980 period also ranged broadly, from 1.1 percent in Yogyakarta and 1.5 percent in East Java to 5.8 percent in Lampung and East Kalimantan.

The provisional census total of 147.4 million population was 3.4 percent, or 5.1 million people, more than the 142.3 million population that previously was projected for 1980 by the CBS. The projection was based upon the CBS's 1971 population census and its 1976 intercensal survey, with annual average rates of growth that ranged from 1.4 percent in Yogyakarta and West Sumatra to 4.9 percent in Lampung, with an all-Indonesia rate of 2.0 percent per year.

Table 1
Province-Wide Population Growth, 1971-1980, By Contraceptive Prevalence, October 1980

Annual average rates of population growth 1971-1980	Estimated current contraceptive users as percentages of married couples of reproductive age, October 1980		
	1.6%-17.5% (1)	22.0%-29.0% (2)	46.6%-56.1% (3)
1.0%-1.9%	East Nusa Tenggara South Sulawesi		Central Java Yogyakarta East Java Bali
2.0%-2.9%	Aceh North Sumatra West Sumatra West Nusa Tenggara West Kalimantan Maluku Irian Jaya	West Java South Kalimantan North Sulawesi	
+ 3.0%	Riau Jambi South Sumatra Bengkulu Central Kalimantan East Kalimantan Central Sulawesi South Central Sulawesi	Lampung Jakarta	

Note: East Timor not included.
Sources: See footnotes in article.

The 5.1 million population difference between the CBS projections for 1980 and the 1980 census was largely accounted for as follows:

West Java: 1.9 million population, for 37 percent of the difference. West Java's annual average rate of population growth was 2.7 percent during the nine-year intercensal period. Parenthetically, the current contraceptive user rate in West Java was only 26.8 percent in October 1980, well behind other large Java provinces.

Eight provinces of Sumatra: 1.3 million, for 25 percent of the difference. Additional census data are expected to become available in summer 1981 in order to analyze this difference better.

West Irian: Almost 1.0 million, for nearly 20 percent of the difference. According to a top CBS official, this was due to including in the projection for West Irian only the urban population that properly could be enrolled during the 1971 census.

East Timor: Over 500,000, for about 10 percent of the difference. East Timor was not a part of Indonesia in 1971.

Conversely, and of possible significance to the Indonesian Government's nationwide family planning program (to which the U.S. Agency for International Development, the UN Fund for Population Activities, and the World Bank have provided support over the past decade), annual average rates of population growth from the census were equal to or less than the earlier projections in seven provinces. They were North Sumatra, Central Java, Yogyakarta, East Java, Bali, West Kalimantan, and South Sulawesi. The annual average rate of population growth from 1971 to 1980 in these seven provinces was 1.7 percent. Adding another five provinces (East Nusa Tenggara, West Nusa Tenggara, West Sumatra, South Kalimantan, and North Sulawesi), which brings the 1980 population to over 60 percent of the all-Indonesia total, the annual average rate of population growth for the 12 provinces was 1.8 percent.

Continued from preceding page

An additional 13 provinces comprised 39 percent of the Indonesian population, each with annual average rates of population growth of over 2.6 percent. Included was West Java, which accounted for almost half of the 39 percent.

During summer 1981 the CBS expects to release more complete 1980 census data in order to determine age distribution, marital status, in-migration, out-migration, and other demographic and social variables.

Every month the Indonesian National Family Planning Coordinating Board releases a statistical summary by province of family planning performance. In October 1980, estimated current contraceptive users in the official program as percentages of married couples of reproductive age (MCRA) ranged from 0.0 percent in East Timor and 1.6 percent in Irian Jaya to 53.0 percent in Yogyakarta and 56.1 percent in East Java. The all-Indonesia rate was 32.0 percent.

Table 1 suggests that annual average rates of population growth over the nine-year 1971-1980 period might be related inversely to contraceptive prevalence.

Population in the 17 provinces with low contraceptive prevalence (see column 1) comprised 30 percent of the all-Indonesia provisional population census total. Of these 17 provinces, only two provinces had population growth rates under 2.0 percent per year, another seven provinces had growth rates between 2.0 percent and 2.9 percent, and the remaining eight provinces had growth rates of 3.0 percent and over.

Population in the five provinces with medium contraceptive prevalence (column 2) comprised 29 percent of the all-Indonesia population. Of these five provinces, none had population growth rates under 2.0 percent, three provinces had growth rates between 2.0 percent and 2.9 percent, and the remaining two provinces had growth rates over 3.0 percent.

Population in the four provinces with high contraceptive prevalence (column 3) comprised 41 percent of the all-Indonesia population. In all four of them, annual average rates of population growth were under 2.0 percent.

Initial tabulations of the 1980 Indonesian census were released only two months after the data were collected. They provided useful but minimal initial insights. Further analyses must be postponed for another six months or so, until additional variables are tabulated and released. □

Province-by-province Indonesian census totals, prior projections, and estimated current contraceptive users are included in a table available from PRB. For a free copy of these figures, write Editor, INTERCOM, PRB, 1337 Connecticut Ave. NW, Washington, D.C. 20036.

Reproductive Changes Between Generations

by R.T. Ravenholt

While this writer was constructing the questionnaire to be used for the Mosaic Mini Birth Surveys now being launched in a number of states, it came to mind that a measure of fertility change during the last half century—from great-grandmothers (M_3), to grandmothers (M_2), to mothers (M_1) of current births—could be obtained by routinely ascertaining the birth order (1, 2, 3, etc.) of current infants, of their mothers, and of their mothers' mothers; and by use of the following equations.

Average Birth Order of Infants (ABOI), divided by Average Birth Order of Mothers (ABOM); minus 1; multiplied by 100; equals the Percent Birth Order Change (% BOC) from the maternal generation (M) to the current infant generation (I):

$$\frac{\text{ABOI}}{\text{ABOM}} - 1 \times 100 = \%\text{BOC}_{M/I} \qquad (1)$$

And because the average birth order of each generation is determined by the fertility of the prior generation, birth order data and this equation could be used as a rough measure of the fertility change (FC) between the grandmother generation (M_2) and the current maternal generation (M_1):

$$\frac{\text{ABOI}}{\text{ABOM}} - 1 \times 100 \approx \%\text{FC}_{M_2/M_1} \qquad (2)$$

(And the approximate fertility change from the greatgrandmother generation of 50 years ago (M_3) to the grandmother generation of 25 years ago (M_2) could be similarly calculated.)

Thus, from three data items (the birth order of an infant, the mother herself, and the mother's mother) readily obtainable by interview from most mothers of current births, relative reproductive performance could be calculated for three generations. And to the extent that the reproductive performance of any generation (M_1, M_2, M_3) was known as a fertility *rate*, the fertility rates for earlier or later generations could be roughly estimated from the percent changes in birth order ratios.

The fact that the reproductive performance of multiple generations could be readily compared retrospectively by means of birth order ratios, from numerator data, should make this a useful technique for identifying the time when traditional societies modified their fertility control behavior; and for comparisons of fertility control behavior by diverse subgroups within national populations.

Such calculations would be greatly facilitated if every birth survey would ascertain not only the birth order of current infants, but of their mothers; and if these data were routinely entered upon all birth records.

And, finally, if data on other study variables, such as breastfeeding and smoking, were routinely ascertained not only for mothers of current births but also for *their* mothers, then analogous calucations could be made of changes in breastfeeding and smoking between generations—with improved understanding of the determinants of historical morbidity and mortality patterns. □

R.T. Ravenholt, M.D., is Director of the World Health Survey, a massive new project to gather country-by-country health and morbidity data. He was previously Director of AID's Office of Population.

The WHS was created in 1980 by the U.S. Centers for Disease Control in association with AID, the UN, and other organizations. It is presently based at CDC in Rockville, Md.

China Seeks Disaster Aid

Massive flooding and drought in China have caused the country's leaders to apply to the United Nations for disaster relief aid for the first time since the Communist takeover in 1949. The worst drought in northern China in 38 years has struck Hebei Province, about 200 miles south of Peking, while massive flooding last summer in Hubei Province in central China caused extensive damage, so that now as many as 20 million people are subsisting on meager government rations of less than a pound of grain daily.

Not only are children suffering from malnutrition, but vitamin deficiencies and diseases such as hepatitis, dysentery, and rickets threaten abnormal growth and permanent damage to those who survive. "Nobody's dying of starvation now," said an international relief official who recently visited Hebei Province. "But wait for malnutrition to really get to the people. It's a slow kind of death."

Inspectors from the UN Disaster Relief Office, touring the areas in January, reported favorably on China's emergency efforts. But while deaths have been held to only 5,000 so far, the country's capacity to meet the continuing emergency needs has been stretched to the limits. The government has requested $1 billion in aid, including medical care, vitamin pills, seed, and clothing as well as food supplies. The European Community has pledged $6.2 million in aid, but the United States as of early April had yet to pledge any specific assistance. World stockpiles of grain for relief purposes have been strained by other requests from Poland, Vietnam, and famine areas in Africa; these other needs may affect adequate aid to China.

There are larger international ramifications as well if China is unable to overcome its difficulties. Both provinces traditionally have supplied other areas of China with food and the natural disasters have thus affected the country's food supply as a whole. This in turn could cause pressure on world food supplies and the ability of the West to produce the needed surpluses, with far-ranging political implications. □

PRB Offers CYCLE Series

PRB has recently assumed responsibility for distribution of CYCLE, a publication series of the population communications project of the Ford Foundation. Each CYCLE publication (12-16 pages long) describes in lively prose and pictures a particular family planning or development project. The titles available, free of charge, are:

The Moalboal Times, by Jack Glattbach. Describes a community-run blackboard "newspaper" in a town in the Philippines.

Family Planning and the Banjars of Bali, by Nancy and David Piet. Bali has gone from one of the most fertile areas of Indonesia to the least, thanks to a highly successful educational program utilizing the "banjars," or community organizations.

The White Revolution. Dairy cooperatives started in 1945 in Anand, Gujarat State, India, now ensure a steady income to the villagers.

Sin Palabras (Without Words)—Printed Materials for People Who Do Not Read, by Ann Leonard. Tells how a picture pamphlet was developed in Mexico to explain the use of the birth control pill to illiterate women.

Famille et Developpement—Sub-Saharan Africa's Self-Help Magazine, by Stewart Dill McBride. A quarterly magazine in French by, for, and about Africans and published in Senegal, *Famille et Developpement* stresses self-help rather than ideology or politics, becoming one of the most popular magazines in West Africa.

That Our Children Will Not Die. Describes a film sponsored by the Ford Foundation and produced for the University of Lagos depicting several Nigerian approaches to the delivery of primary health care services.

CIACOP (Centro Interamericano de Adiestramiento en Comunicaciones para Poblacion—Interamerican Center for Population Communications Training), by Ann Leonard. Located in San Jose, Costa Rica, this program was begun in 1972 as a response to the need to communicate effectively with the target audiences of various family planning programs in Latin America.

Communication at the Pila by Susana Fernandez and Roya D. Colle. A case study of a communication program carried out by the authors on a coffee/rubber plantation in Guatemala, using cassettes placed in the public washing area (pila) to spread information about nutrition, health care, chi'ldbirth, etc.

Meet Pak Panut, by Nancy and David Piet. The Indonesian family planning program created this character to spread the new concept of family planning in densely populated Java, putting it in an everyday context to make it an integral part of daily life.

Katiwala, by Irene M. Santiago. Describes a program set up in the slums of Davao City, Mindinao, the Philippines to train women in the community to work with their neighbors to change the traditional attitudes toward nutrition, sanitation, treatment of disease, family planning, etc.

How They Got "Poppalation" in the Baltimore Schools, by Jack Glattbach. Tells how the Baltimore city schools became the first public school system in the U.S. to expose students to population studies. □

Copies of these CYCLE publications are available free of charge while supplies last from: Circulation Dept., PRB, 1337 Connecticut Ave. N.W., Washington, D.C. 20036.

"Patrimonial control of surnames?" The California Supreme Court has ruled that nothing in the law requires that a child carry the father's name. The case in dispute involved a divorced Oakland couple, each of whom wanted their three-year-old daughter to bear his or her own surname. The reasons for "patriomonial control of surnames have virtually disappeared," said the Court, and "nothing in the statutes or constitutions of the United States or California dictates that a child bear the father's surname." While not specifically deciding the outcome of the Oakland case, the Court laid down some guidelines: In such a dispute between parents, trial courts should rather consider the length of time a child has used the surname, the effect of a name change on the father-child relationship, the strength of the mother-child relationship, and identification of the child as part of a family unit.

Population Figures Reveal USSR's Continuing Health Crisis

by Anne Cusick

Health standards in the Soviet Union have deteriorated to such a degree in the last decade as to be in a state of crisis. This is the conclusion drawn by Nick Eberstadt in a review (*New York Review of Books*, February 19, 1981) of *Rising Infant Mortality in the USSR in the 1970s* by Christopher Davis and Murray Feshbach* (see article by Davis and Feshbach in July 1980 issue of INTERCOM). Not only is the infant mortality rate increasing, but the average life expectancy is down—both remarkable and disturbing reversals that run counter to the prevailing Western trend of steady, almost irreversible improvement during the 20th century.

Life expectancy, which was 68.7 years in the late 1950s (higher than the U.S.'s at that time), may have slipped below 68 years today (while the U.S.'s has risen to 73); a most surprising trend reversal. Similarly, the infant mortality rate, which started the century with a huge estimated rate of 250-300 infant deaths per 1,000 live births, had by 1960 dropped to a rate lower than many Western countries, and then increased again to an estimated 40 per 1,000 live births. (The USSR stopped releasing these statistics in 1975, but estimates can be made from analysis of other statistics.)

Eberstadt gives a number of possible reasons:

- Alcoholism is a serious problem, with a per capita consumption of hard liquor in the early 1970s twice that of the United States or Sweden. The evident consequences of this are many: a high level of industrial accidents; the same number of traffic fatalities as the United States with only one-tenth the vehicles; and the various problems of infants born of drinking mothers.
- The high level of abortions is likely to influence mortality rates for both women and infants. Apparently, abortion is taking the place of contraception: official estimates attribute 6-8 abortions to each woman in a lifetime (Soviet feminists claim the average is closer to 10); the average in the United States is 0.5 per woman.
- As industrialization has progressed, so has pollution, dumping of industrial wastes in rivers, and even radiation leaks from nuclear power plants.
- Diseases such as rickets, caused by lack of vitamin D and practically unknown in the West, are not under control and, combined with pneumonia and influenza, probably account for thousands of infant deaths each year.

The underlying cause, however, seems to be a fundamental failure in Soviet health care. Eberstadt points out three major contributing factors. First, the health strategy of the central government appears to be misguided. Improvements in facilities and supplies have been sacrificed for expansion of available services. The great majority of Soviet doctors are women, which has led to social undervaluing of the profession and insufficient attention to health needs.

Second, as is true for other sectors of the economy, corruption and black-marketeering have permeated the health sector, which assures treatment and drugs for those who can afford to pay extra, but places adequate care out of the reach of the poor and rural, who are often the most needy.

Third, the central government appears to have decided to sacrifice the "butter" of health care for the "guns" of the military and industry. At a time when most countries have been increasing their budgetary outlays for health care, the Soviet Union has cut back on its expenditures. In 1955, 9.8 percent of GNP went to the health field, whereas in 1977 only 7.5 percent was allocated. This is in an era when medical technology has contributed to the soaring costs of medical care. In the post-Stalin era of rising consumer expectation, it has become increasingly difficult for the government to finance its military and industrial growth by cutting back on tangible items such as food and housing, but comparatively easier to economize on such an intangible as health services.

Is this general deterioration of health standards apparent to the Russian people? What is their reaction? Eberstadt grimly suggests that what Dostoevsky described as "a fundamental spiritual need of the Russian people. . . for suffering, perpetual and insatiable, everywhere and in everything" may so far have blunted any great manifestation of dissatisfaction. □

*Part of the U.S. Census Bureau's International Population Reports, Series P-95, No. 84; to obtain this report, contact the Foreign Demographic Analysis Division, U.S. Bureau of the Census, 711 14th St. N.W., Room 705, Washington, D.C. 20230.

New Publications

Social Indicators III, a compendium of statistical information on the quality of life in the U.S., has now been published. Containing a plethora of social statistics, with many charts and graphs, this book is probably the Census Bureau's most free-wheeling venture in describing the social characteristics of the U.S. population. (The previous issue was published in 1976.) In its pages, one can find out everything from age-specific rates of criminal victimization (highest among persons aged 12-24, lowest among the aged, surprisingly) to total volume of pollutants (which has declined about 5 percent between 1970-1972 to 1975-1977) to television viewing time (4 hours 20 minutes per day among children in 1979). (Cost: $17.00; stock no. 003-024-02683-0; order from Superintendent of Documents, GPO, Washington, D.C. 20402.)

The Advance Reports of the 1980 Census of Population and Housing (PHC80-V) are now available on a state by state basis. These contain the official final population and housing unit counts of the census just concluded. (The U.S. summary is $1.00 postpaid; the prices of the individual state reports vary. For more information, or to order, contact: Customer Services, Data Users Service Division, Bureau of the Census, Washington, D.C. 20233.)

Migration to Nonmetropolitan Areas: Appraising the Trend and Reasons for Moving (CDS 80-2) by Larry Long and Diana DeAre offers perspectives on the relatively recent shift of population growth to nonmetropolitan areas. The authors offer two perspectives on that new trend: (a) that the nonmetropolitan areas may have attracted and/or retained more young persons during the early 1970s, so that childbearing by them kept the momentum of nonmetropolitan growth going; and (b) that during 1974-1978, the net migration to nonmetropolitan areas continued apace, and studies show that more than half of the households doing so did so for a wide variety of "non-economic" reasons, including the broad-based appeal of nonmetropolitan as opposed to metropolitan living. (Cost $2.00; stock no. 003-024-02813-1; order from Superintendent of Documents, GPO, Washington, D.C. 20402.)

How IRS Does Its Annual 'Census' of Your Wallet

by Margaret Hunt

1980, the year of the census, has come and gone, and Americans have again been made acutely aware of the epic effort involved in counting the nation's people. The large number of forms sent out, the organization, the call-backs, the huge, rapid processing effort, are all a part of the decennial task.

But there is another government organization that carries out an equally large task each year: it demands confidential information from most Americans, faithfully calls back when it suspects that the information received is incorrect, and even sends money to many Americans when the process is complete. The organization, of course, is the Internal Revenue Service.

Each December, tax packages are sent to all Americans whom the government anticipates will pay taxes; this year, 93 million citizens received such packets. By April 15, the forms must be filled out and returned and the IRS gears up for the massive job of processing the data. This year it expects to receive about 95 million forms; first-time filers (often high school students) account for the additional 2 million. Those citizens who fail to file a statement receive a letter from the IRS as a gentle reminder. If there is still no response, an IRS investigator follows up the case in person.

As the processing of the information begins, the returns are sent to 10 IRS centers throughout the country, from Fresno, Cal., to Andover, Mass. The data is fed into computers which check for and automatically correct arithmetic errors on the forms. Next the computer, programmed to check for suspicious signs, spits out any returns which seem to indicate tax evasion or illegalities—these returns will be audited. In addition, a small percentage of returns are randomly selected by the computer for audit. A total of about 2 million returns were selected for audit in 1980.

When 1980's audits were complete, the IRS had prosecuted about 1,600 people for tax fraud, punishable by jail sentences and/or heavy fines. Another 7,000 people, in cases where the evidence of fraud was not as overwhelming, were subject to a civil fraud penalty, consisting of a 50 percent fine on top of the taxes they owed.

By June or July the processing of ordinary citizens' returns is complete. All computer information from the 10 regional centers is stored on magnetic tapes. These, in turn, are transferred to a master tape in Martinsburg, W. Va., which compiles the new information and updates the old.

This annual enterprise is expected to cost $2.9 billion in 1980. Some $569 million is spent on the mechanics of processing the tax forms; the remainder to auditing and investigations.

In some ways IRS's mission resembles that of the decennial census; except that it is mainly interested in every dollar that passed through your hands. But in its mission, IRS has one advantage over the Census Bureau; the Census Bureau must go out and find the nation's 226.5 million and 88 million housing units. IRS, by contrast, can sit back and have its population come to it; the burden of reporting is on the taxpayer. (Also, no one seems to complain about undercount.)

It may beggar belief that one government organization can effectively keep tabs on the personal finances of all U.S. citizens. The master tape in West Virginia greatly simplifies this task, however. Once a citizen's name is entered on the master list, he is expected to file a return (or give reason for his failure to do so) each year for the rest of his life. And however much most citizens might prefer to avoid ever gaining a place on that master list, the process is almost unavoidable. Employers, banks, and stockbrokers all report citizens' earnings directly to the Internal Revenue Service, making it a virtual impossibility that anyone can go through life unnoticed by the IRS.

Last year, this colossal organization pulled in $519.4 billion in taxes for the U.S. government. Softening the blow of this entire process, however, is the fact that, as some sort of reward for their troubles, two our of three taxpayers can look forward to refund checks in the mail. □

Plight of 16 Million Refugees

Thirty years ago, refugee groups from World War II were considered temporary, isolated problems. Today, refugee crises are ongoing matters of international concern and unless they are treated as such, the 1980s may warrant the title "decade of the refugee."

Kathleen Newland, in the new *Worldwatch Paper* "Refugees: The New International Politics of Displacement," argues that a new outlook toward refugees is required. "Refugee crises have been treated as isolated, unpredicatable upheavals, much like natural disasters. Yet it is becoming discouragingly clear that the presence of refugees is in fact characteristic of violent confrontation today. . . . There are currently about 16 million refugees in the world and it is easy to pinpoint several troubled regions capable of producing additional thousands of refugees at the drop of a hat—or the squeeze of a trigger."

Newland attributes these changes to a rapidly increasing world population and its accompanying poverty and rivalry for land and resources. And she points out that more and more frequently these crises demand a worldwide response. "No country is immune to the effects of today's displaced people. Although a handful of national leaders believe they can benefit from refugee-producing conflict, it is the responsibility of the whole community of nations to convince these few how dangerous and futile such a notion is in a crowded, complex, and highly interdependent age."

The international community seeks to deal with refugee problems by offering one of three solutions, according to Newland: voluntary repatriation, settlement in the country of first asylum or resettlement in a third country. The first solution "is logistically and psychologically the easiest but politically it may be the most difficult since it requires an end to the conflict that produced the refugees."

Settlement in the country of first asylum is often the only practical alternative and is made easier when resettlement is "in a neighboring country where climate, culture, and perhaps even ethnicity are similar to the refugees' place of origin," says Newland. The most vivid recent example of third country resettlement is the case of the Indochinese "boat people." About 1.5 million people have fled Kam-

Continued on next page

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puchea, Laos, and Vietnam since 1975 and large numbers of these have settled in countries far away from their original place of asylum. The Palestinian refugees are a grim reminder that in some cases none of the three solutions for resettlement are effective and that decades can pass with no end to exile.

Newland stresses that the international community is of vital importance in ensuring that refugees' basic physical needs (food, clothing, shelter, and medicine) are met while they await an end to their exile. "The coordinated response of governments to the needs of both refugees and the countries that shelter them has been built around the concept of international solidarity—an obligation to ensure that countries that give asylum do not pay an unbearable price in terms of their own stability and development. Without such assurance, some countries undoubtedly would refuse to allow refugees to claim even temporary asylum." This assistance is offered most effectively through a web of relief efforts: international aid, private, volunteer organizations, and bilateral aid from a single government to another.

"Actions within a country that cause its people to become refugees are no longer purely internal affairs," Newland concluded. "They do, in fact, infringe on the sovereignty of other countries by flooding them with homeless people and by generally destabilizing the international system. For this reason, nations must work together to provide immediate humanitarian assistance to refugees, to support a long-term resolution of their plight, and to attack the underlying problems that force people to flee their homelands. The capacity to respond constructively on all these fronts must expand at least as quickly as does the potential for new refugee crises." □

Copies of *Worldwatch Paper 43*, "Refugees: The New International Politics of Displacement" by Kathleen Newland, are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

75 Million More Each Year

Continued from page 1

and Egypt with 8.3 and 2.8 percent of their area, respectively, considered fit for agriculture.

While data on arable land are certainly useful, care should be exercised in their interpretation. Much land classed as "arable" or "agricultural" may be useless for actual food production short of the grazing of small flocks. It has been estimated that only about 2 percent of world land area is actually ideal for grain production. While many African countries listed on the *Data Sheet* have comparatively low population densities, the calorie supply available to the population is below the minimum requirement throughout much of the continent.

More Coming Every Year

If present projections of world population for the balance of the century prove even reasonably close to reality (and barring a sharp rise in death rates, they most likely will prove so), the 75 million persons now added to our population each year will increase to over 90 million annually by the late 1990s. By 2000 the world's more developed nations will have grown by about 10 percent, while the less developed grow by about 45 percent. Significantly, at least one out of every 10 persons added to the populations of the more developed countries will probably be an immigrant from the less developed ones.

While the use of rates provides a constant yardstick for country by country comparisons, rates tend to hide much of the human impact of vital events. Thus, while Algeria's estimated birth and infant mortality rates are 46 and 127, respectively, this actually means that out of the approximately 890,000 children born every year in that country, about 110,000 die before reaching their first birthday. A country such as Sudan, with barely 20 million population, produces nearly 1 *million* births each year. There are more babies born in India each year than the population of Canada. Current

Continued on next page

Estimated Components of Population Change, 1981, and Projected Population Growth, 1981-2000, for Major Areas of the World

	Population mid-1981	Annual births	Annual deaths	Natural increase	Projected Pop. Growth to 2000	Infant deaths
World	4,491,913,000	125,020,000	49,307,000	75,712,000	1,603,478,000	12,059,000
More Developed	1,143,876,000	17,780,000	10,742,000	7,038,000	111,090,000	360,000
Less Developed	3,348,037,000	107,239,000	38,566,000	68,674,000	1,492,388,000	11,699,000
Less Developed (excl. China)	2,363,037,000	89,608,000	32,459,000	57,149,000	1,277,388,000	10,712,000
Africa	486,176,000	22,465,000	8,305,000	14,160,000	346,329,000	3,180,000
Asia	2,608,404,000	74,514,000	27,715,000	46,799,000	955,671,000	7,632,000
North America	254,028,000	4,063,000	2,220,000	1,844,000	31,906,000	51,000
Latin America	366,083,000	11,738,000	3,177,000	8,562,000	196,315,000	881,000
Europe	486,375,000	6,877,000	4,995,000	1,882,000	24,370,000	117,000
USSR	267,719,000	4,872,000	2,704,000	2,169,000	42,339,000	175,000
Oceania	23,128,000	490,000	193,000	297,000	6,548,000	24,000

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world population dynamics expressed in terms of numbers are shown in the table on page 13.

Trends in the World's Birth Rates

Over the past decade, the world's birth rates have evidenced a measurable downward trend in all regions except for Africa. Recent survey data indicate truly notable declines in fertility in Mexico, Thailand, Cuba, Indonesia, Singapore, and Sri Lanka, among others. Recent estimates for China suggest that the world's most populous country is approaching "replacement level" fertility under a vigorous government family planning program.

Throughout Europe and in the U.S. and Japan, however, a new trend may be on the verge of establishing itself. In these more developed countries, the steady fertility decreases since the end of their post-World War II "baby booms" (which varied greatly in duration and intensity) are now showing signs of bottoming out. Total fertility rates (TFRs) in quite a number of Western European countries which had dropped to historically low levels have either leveled off or have increased slightly.

Although the general world fertility trend is downward, the decline is not yet sufficient to stop the continuance of a very large increase in the numbers of world inhabitants. For example, should the present *Data Sheet* projection for 2000 of 6.1 billion prove high, it only means that 6.1 billion will probably be reached a short while later—the year 2003, say. Long range projections which require very sweeping assumptions as to the trend in each country's fertility performance and mortality experience put the eventual size of world population at anywhere from 8 to 11 billion when (and if) growth stops. Such a wide range of possibilities is one indication of how uncertain the future truly is. If world population does not reach the 6 billion mark by 2000, it may also be the result not only of declining fertility, but also of rising death rates which partly result from the pressures of population growth (Davidson Gwatkin of the Overseas Development Council will discuss this issue in a future INTERCOM).

Inside the Data Sheet's Rates—and Numbers

The ten most populous countries on the *Data Sheet* (China, India, the USSR, the United States, Indonesia, Brazil, Japan, Bangladesh, Pakistan, and Nigeria, in that order) remain unchanged from last year, although current projections call for some changes in rank by the end of the century. The top six countries in size should remain in the same order as above while Japan drops to number 10 and Bangladesh, Pakistan, and Nigeria each move up one place.

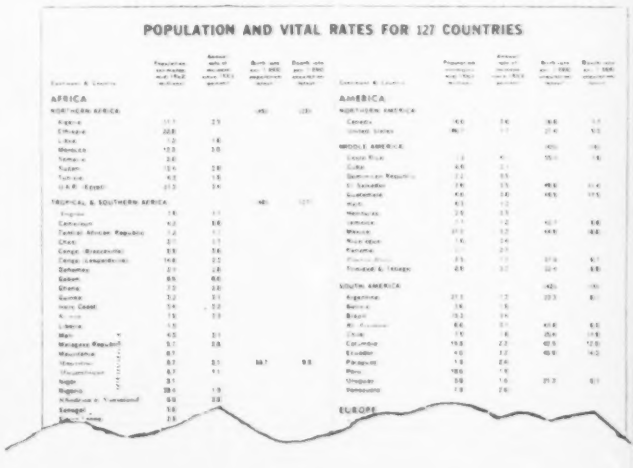
Sweden has again reported the lowest infant mortality rate; for 1980, the rate was 6.7 infant deaths per 1,000 live births, a rate so low that it is a likely world record for that statistic.

For most of the more developed countries on the *Data Sheet*, a different method of projecting their populations was used this year. *Data Sheets* of prior years used the growth rates implied by UN projections which assumed that those countries would see their fertility rates rise to replacement level (a TFR of 2.1) by 2000. The projections shown on this year's *Data Sheet* assume that current levels of fertility will remain constant until 2000.

Users will also note a new data row at the top of the *Data Sheet*, for "Less Developed excluding China." As a quick glance shows, China, with its massive population, rigorous family planning program and comprehensive health care, tends to push down the population growth rate for the less developed world and to increase life expectancy. Remove China from this category, and a more representative (and perhaps alarming) picture of conditions in much of the less developed world becomes apparent. It may be, in fact, that many of the countries with comparatively high crude death rates at present have yet to experience their periods of truly rapid population growth.

The leaders of many less developed countries have recognized the problem of attempting to raise present living standards in the face of rapid population growth. Bangladesh's President Zia has taken to promoting family planning in the villages and has optimistically stated that it is possible to stop Bangladesh's current population of about 93 million at the 100 million mark and then decline. While is impossible not to sympathize with President Zia's efforts on behalf of his country, the simple mathematics of the situation will almost certainly not cooperate with such a lofty goal. In order for Bangladesh to actually achieve that goal, the country's TFR of about 6.3 children per woman (the rate may be even higher), would have to drop to 2.0 immediately; Zia's planning minister, Fasihuddin Mahtab, has stated that unless the country can make major breakthroughs in food production and a slowdown in population growth, "We are finished."

World population growth has been described in many different ways in order to dramatize the current unprecedented situation, with "population explosion" or "bomb" among the best known. Viewed in the context of the entire span of human history, they are certainly rather accurate images. But in the shorter term of just a few decades, demographic changes are more gradual, and go virtually undetected. Today, there are over a half billion people in the world who suffer from severe malnutrition; this number did not emerge overnight, but has grown slowly. Perhaps Ambassador Marshall Green's description of current population growth as a "silent" explosion has put it best. If the number of those starving should grow by yet another 100 million, the actual day-to-day increase will be almost imperceptible, and barely a sound will be heard. □


POPULATION AND VITAL RATES FOR 127 COUNTRIES

The first PRB population Data Sheet appeared in September 1962, when the world contained 3.115 billion persons.

world food news

More than twice as much milk is now being directly sold by rural dairy cooperatives to urban consumers in India than 10 years ago, under "Operation Flood," the biggest dairy development project in the world.

And "the price is reasonable," a 10-member united Nations team said after a one-month on the spot evaluation of the project, which was supported by the World Food Programme (WFP) with food aid worth $165 million. The project also helped to increase "substantially the income of a very large part of rural milk producers."

The team, led by Dr. Henryk Jasiorowski, Chancellor of Warsaw's Agriculture University, included specialists from the United Nations, the Food and Agriculture Organization, the World Food Programme, the United Nations Development Programme and the International Labor Organization.

The World Food Programme is jointly administered by the UN and FAO.

"Without the project's efforts, milk from city schemes would have to be severely rationed and prices for milk would have increased very substantially," the team points out. Nevertheless, overall milk production is not yet able to meet the growing demand in the country.

WFP supplied 126,000 tons of milk powder and 42,000 tons of butter oil drawn mainly from the quantities pledged by the European Economic Community to the Programme.

'Operation Flood,' conceived and managed for the Indian Government by the Indian Dairy Cooperation (IDC), used WFP-supplied commodities to lay the foundation for the modernization of India's fast-developing dairy industry. The milk powder and butter oil were recombined into liquid milk to expand the year-round milk supply to consumers in the cities of Bombay, Calcutta, Delhi, and Madras.

Over 1 billion rupees (US $123,456,800) were generated from the sale of WFP commodity-based recombined milk. These funds were plowed back into developing the Indian dairy industry right from the raw milk production to the urban consumption. The mission felt that the project was a successful model of use of food for economic development.

IDC has used the funds chiefly to increase financial allocations for investment in dairy infrastructure. Five of the existing city dairies have been expanded to a capacity of 1.5 million liters per day. Four "mother dairies" with a total capacity of 1.4 million liters per day have been built. Seventeen feeder-balancing dairies with a daily capacity of 3.4 million liters have been constructed. Chilling plants with a daily capacity of 400,000 liters are now in use.

Ten thousand village cooperatives involving over 1.3 million milk producers in 27 milk-shed areas of India have been organized. The main beneficiaries are the small farmers with one to three buffalos as large farmers find raising crops more profitable than producing milk.

Measures designed to enhance milk yields from 7,730 villages under the technical input programs include setting up of 262 mobile veterinary units and 3,052 artificial insemination stations. In addition, 10 plants for making animal feed have been established, two existing plants expanded and three more are under construction. □

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

Cornucopia of Numbers Returns

For those of you who have been waiting a year for these occupational data, we can now report that there are 9,461 professional boxers in the United States, an increase of 318 over last year. Yes, the newest edition (1980) of the U.S. Department of Commerce's *Statistical Abstract of the United States* is now available, and its 1,059 pages (up two pages from the 1979 edition) are full of a broad array of U.S. (and some foreign) statistical information you probably didn't know existed.

For instance, there were 193,000 hucksters and peddlers but only 109,000 barbers in the U.S. in 1979. The percentage of cars manufactured with tinted glass has grown from 69.5 percent in 1970 to a whopping 88.6 percent in 1979, while 25.9 percent of the women who use aspirin do so once a week or more.

This 101st edition of the *Abstract* is keeping up with past tradition, with some 1,600 statistical tables and four appendices, various guides to the sources and reliability of the data used, and a 42-page index. There are 34 sections, including ones on population, vital statistics, education, geography and environment, prices, elections, and energy. There is also a section on comparative international statistics, in the event you need to know that Djibouti's population grew from 81,000 in 1960 to 386,000 in 1979. However, U.S. Census figures for 1980 are not included. □

Copies of the *Abstract* are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 and Commerce district offices in major cities for $13 clothbound and $10 paperback.

positions/professionals

Executive Director. The Environmental Fund, a Washington, D.C. based private operating foundation with strong interests in U.S. population and resource problems, seeks new executive director. *Qualifications:* demonstrated knowledge of, and commitment to, the population and conservation movement; experience in program planning, staff management, and fundraising of major gifts from private donors; clarity and facility in speaking and writing; ability to meet people easily; knowledge of direct mail, foundation fundraising, and the media. *Salary:* Range $35,000-$40,000. *Contact:* John H. Tanton, M.D., Chairman, Search Committee, 706 Jackson St., Petoskey, Mich. 49770. (An equal opportunity employer.)

Vital Statistics Update

Provisional U.S. Vital Statistics: December 1980

Item	12 months ending with December					
	Number		Rate			
	1980	1979	1980	1979	1978	1977
Live births	3,598,000	3,473,000	16.2	15.8	15.3	15.3
Deaths	1,986,000	1,906,000	8.9	8.7	8.8	8.8
Natural increase	1,612,000	1,567,000	7.3	7.1	6.5	6.5
Marriages	2,413,000	2,359,000	10.9	10.7	10.5	10.1
Divorces	1,182,000	1,170,000	5.3	5.3	5.2	5.0
Infant deaths	45,000	46,000	12.5	13.0	13.6	14.0
Population base (in millions)	...	...	222.3	219.9	218.0	216.3

Source: Monthly Vital Statistics Report (Vol. 29, No. 12) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

POPULATION: Demography & Policy, by Robert H. Weller and Leon F. Bouvier. New York: St. Martin's, 1981. 365 p. $17.95. ISBN 0-312-63114-6. LC 80-52385.

POPULATION: An Introduction to Concepts and Issues, by John R. Weeks. Belmont: Wadsworth, 1981. 425 pp. $18.95. ISBN 0-534-00921-2. LC 80-21094.

College and university professors making plans for their 1981-82 courses on population should note the availability of two texts. *Population: Demography and Policy*, by Robert H. Weller and PRB Demographer Leon F. Bouvier is new; the other, *Population: An Introduction to Concepts and Issues*, by John R. Weeks is the revised and expanded edition of an already popular book. Both are oriented to introductory courses on population for advanced undergraduate students. They are similar in structure, each having five parts beginning with an introductory discussion of basic concepts, data sources, and the nature of the field of demography, and concluding with chapters on population policy.

Weller and Bouvier's *Population* is oriented to sociology. Its very brief introductory chapter is followed by a section on national and global population patterns, with basic concepts and measures presented through a series of boxes running alongside the main text. This attractive feature of the book provides clear and concise explanation of rates and methodological points when they arise in the presentation of substantive material without breaking its flow. Preliminary results of the 1980 U.S. Census are reported. The third section covers components of population change, with chapters on fertility, mortality, and migration. There is a separate chapter on birth prevention methods. A fourth section examines determinants and consequences of age and sex composition and their links to such issues as the social and economic impact of the U.S. baby boom generation as it passes through various stages of the life cycle. Two policy chapters in section five, one on fertility and mortality and the other on migration, examine such concrete issues as the problem of infant mortality in the District of Columbia and alternative policies and laws on immigrants and refugees in the U.S. and other industrialized countries.

Weeks' very successful *Population* has been updated and revised on the basis of classroom experience with the 1978 edition. Introductory chapters on the nature of demography and data sources have been expanded. Facsimilies of U.S. Census and vital statistics schedules, and a "where to go" section for demographic data, are attractive features. While this text is oriented primarily to sociology, its attention to economic theories—from classical political economists such as Marx and Mill, in addition to Malthus, to the "new home economics" articulated by Becker, Easterlin and Leibenstein—provide attractive breadth. Section two covers population processes—fertility, mortality, and migration—and includes an additional chapter on fertility measurement and fertility control. The third section covers population characteristics and age-sex structure, including a fascinating set of population pyramids contrasting different areas within a major metropolitan area in the U.S. This is followed by a section with five chapters on the relation between population and contemporary social issues: economic development, food, urbanization, women's roles and the family, and aging. Case studies (for example, population and development in Mexico) are interwoven with discussions of policy issues. The concluding section examines the role of demographic science in policy debates.

Both texts provide abundant tables and figures to illustrate their points. While the number of these illustrations is greater in Weller and Bouvier, an extra inch of page width in Weeks is easier on the reader's eye. Weller and Bouvier's bibliographies are included with each chapter, which will facilitate assignment of collateral reading. Weeks' entries are grouped at the end of the book and keyed to individual chapters where references occur.

Both provide appendices that explain life tables and net reproduction rates; Weller and Bouvier are more precise in their presentation of formulas with which a student could actually perform the calculations. Both have glossaries that define such terms as "fertility," the "Green Revolution," and "ZPG." In addition, Weller and Bouvier define "Pearl index" and "good times cohort," while Weeks explains "Marxist" and "demographic overhead." Both define "demography," with Weeks' entry reading "the science of population," while in Weller and Bouvier we find "the systematic study of populations, including their size, composition, distribution and the causes and consequences of change in those factors." —*Thomas W. Merrick*

CONNECTING WORLDS: A Survey of Developments in Educational Research, by Robert G. Myers. Ottawa: IDRC, 1981. 88 pp. $6.50. ISBN 0-88936-284-X.

EDUCATION, WORK, and EMPLOYMENT: A Summary Review, by Maureen Woodhall. Ottawa: IDRC, 1981. 52 pp. $3.50. ISBN 0-88936-274-2.

A REVIEW OF TEACHER EFFECTIVENESS RESEARCH IN AFRICA, INDIA, LATIN AMERICA, MIDDLE EAST, MALAYSIA, PHILIPPINES, AND THAILAND: Synthesis of Results, by Beatrice Avalos and Wadi Haddad. Ottawa: IDRC, 1981. 128 pp. $10.00. ISBN 0-88936-272-6.

THE DETERMINANTS OF SCHOOL ACHIEVEMENT: A Review of the Research in Developing Countries, by Ernesto Schiefelbein and John Simmons. Ottawa: IDRC, 1981. 44 pp. $3.00. ISBN 0-88936-273-4.

These four new paperback publications from the International Development Research Centre in Canada examine new educational research findings in developing countries. In *Connecting Worlds* Robert Myers reviews developments in education research. Although he notes that countries and regions vary, "in general institutionalized research in the Third World is: new, growing rapidly, under-financed, uncoordinated, fragile, still dominated by a tradition of psychopedagogical research, unable to train locally a next generation, subject to international fads, dependent on first world concepts and methodologies, and living on its potential."

Maureen Woodhall, in *Education, Work, and Employment: A Summary Review*, recalls the near-euphoria of the early 1960s when education was considered the most profitable form of investment in human capital and laments the fact that ten years later "The massive expansion of enrollments and educational expenditure . . . had not brought the promised benefits of faster economic growth." As the 1980s begin, the study reports that in every country for which data exist, workers with more education earn more than illiterate workers, or those with less education. An educated worker is considered more productive, and higher earnings are the reward for increased productivity.

The other two publications are equally concise, well-written and insightful contributions to the field. All four should serve as valued reference works for those interested in education in developing countries in general. For those working in population or family planning education, they provide essential information on the context of those particular endeavors. —*Elaine Murphy*

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World Food: Enough for All?

by Carl Haub and Arthur Haupt

In 1693-1694, the price of wheat in France, which had been rising for several years, increased five-fold over the 1690-1691 market price. Although by 1695-1696 it had returned to the low 1690 level, meanwhile the toll of human life in three of the four French parishes of Beauvaisis, Auneuil, Breteuil, and Muoy was devastating. Despite the fact that these parishes were no more than 30 or 40 miles distant from one another, the famine's effect was not uniform. Auneuil, with a more diversified agricultural economy than its less fortunate neighbors, escaped with far smaller losses.

Today, that classic case of famine (as related by E.A. Wrigley) is being re-enacted on a global scale. Instead of villages, there are countries and continents; instead of a few thousand people, millions of people are involved.

The raising and distribution of food is, obviously, a life or death matter. Much of the history of the world is the story of the battle to secure an adequate, reliable food supply. After World War II, the production battle was seemingly won due to mechanization and increasing use of agronomy (equitable distribution has remained a problem, however). But starting 10 or 15 years ago, the expanding food needs of a rapidly expanding world population began to reverse the previous gains. During the 1970s the world entered a new era of uncertainty over food availability, and the outlook for the rest of the century is even less promising.

Countries that were self-sufficient before have turned to increasingly expensive food imports. Famines continue to flare up, so that today, some 120 million people in China are believed to be affected by recent droughts and floods, while some 150 million people in Africa are estimated to be facing food shortages. And from Central America to Oceania, countries or parts of countries are facing starvation.

Overall, the UN's Food and Agriculture Organization (FAO) has estimated that some 450 million people in the world (excluding China) are undernourished – that is, eating so little that they suffer from some form of energy deprivation.* That is one out of 10 persons on earth.

At the same time, the World Bank has reported that "at the global level, if income were distributed differently, present

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INTERCOM

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	U.S.	All other countries
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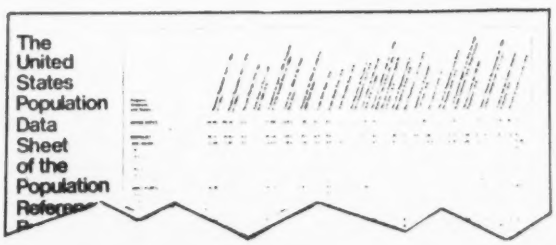
Trying to Define When Human Life Begins

Debate has opened on Capitol Hill over the question of when human life begins and indications are that it will be lengthy and highly controversial. Sen. John P. East (R-N.C.) is chairing the Senate Judiciary subcommittee on separation of powers that began hearings April 23 on the bill introduced by Sen. Jesse A. Helms (R-N.C.) which proposes that "human life shall be deemed to exist from conception."

The witnesses testifying the first day, a number of distinguished physicians, affirmed this view amid a great deal of protest from the audience. Dr. Hymie Gordon, chairman of the Department of Medical Genetics at the Mayo Clinic in Rochester, Minn., stated that "it is the first time I ever had to argue the unarguable... Life [unquestionably] begins at conception." The second day, Dr. Leon E. Rosenberg, chairman of the Human Genetics Dept. at the Yale University School of Medicine, contested this definition of the beginning of life by saying, "I know of no scientific evidence which bears on the question of when actual human life exists" and that "a great majority of clinicians and scientists in this country would support my side of this argument."

In response to the hearings on the bill, which seeks to make abortion illegal without passing a constitutional amendment (if human life could be defined as beginning at conception, then abortion would be considered homicide and thus illegal under existing statutes), the National Academy of Sciences passed a resolution April 28 at its annual meeting asserting that it is not possible to answer the question of when human life begins in clear-cut scientific terms. □

Data Trove of the States



Just in time for ordering for the new school year, PRB's newest special publication, *The United States Population Data Sheet* decorates any home, office, or classroom wall. This convenient, attractive poster measures 18½ × 24 inches and is packed with information on all 50 states' per capita income, population rank, and ethnic composition, as well as the 1980 Census count figures. You can see how your state stacks up against others in density, crime rates, education level, income, and number of immigrants. Statistics on the four regions and nine divisions are also included.

The first of an annual series, the Data Sheet was prepared by demographer Carl Haub. Single copies are $1.00; 2-49 copies, 75¢ each; 50 or more copies, 50¢ each. Send orders with remittance to: PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013. For orders of $5.00 or less, please add 50¢ for postage and handling. □

Working Women: Soaring Numbers, Same Old Problems

As their numbers continue to mushroom, working women are transforming the American labor force, the economy, and the family, "but the lives of these women by and large have not changed," says sociologist Linda J. Waite in PRB's *Bulletin* for May, "U.S. Women at Work."

Forty-five million women held a paid job or were looking for one in 1980, up from 18 million in 1950. This was 52 percent of all women aged 16 and over compared to 34 percent in 1950. They made up 43 percent of the 1980 U.S. work force of 105 million versus the 29 percent share of women in the 1950 work force of 64 million.

Waite, a social scientist with the Rand Corporation of Santa Monica, California, and author of numerous studies of U.S. working women, points out that 44 percent of employed women now work full time, the year round, but they earn on average only $6 for every $10 earned by the 66 percent of employed men who earn that amount. "This ratio has been virtually constant since at least 1960," says Waite. The latest Census Bureau figures show that among full-time, year-round workers in 1979, the average income for women with bachelor's and advanced college degrees ($14,735) was less than the average for male high school dropouts ($14,806). And "most working wives and mothers still face 'superwoman squeeze'—juggling home and family chores for which they are still primarily responsible in addition to their responsibilities on the job," adds Waite.

More delayed marriage and separation and divorce account for some of the surge in women's employment. "But married women living with their husbands have been in the vanguard of women's rush into the paid labor force," Waite says. Half of all wives "with husband present" were working or looking for work in 1980, compared with less than a quarter in 1950.

This trend signals a marked shift in the attitudes about "women's place," she observes. During the 1950s and 1960s women tended to drop out of the labor force while their children were young. But in the 1970s, the employment rate for women aged 25 to 34—the prime ages for childbearing and early childbearing—went up by more than half, from 43 percent in 1970 to 65 percent in 1980. Forty-five percent of married mothers of preschool children under age six were working in 1980, compared to 12 percent in 1950.

"Time-budget" surveys show that working wives' overload eased somewhat between the mid-1960s and mid-1970s, Waite reports, but the main shift was a reduction in time spent on the job. Among people working at least 10 hours a week in 1975, both married women and men averaged a little over 8½ hours a day on the job plus work at home. But employed wives were putting in 2 hours and 23 minutes a day on housework, on average, compared to 25 minutes a day for married men.

Mothers of pre-schoolers are also hampered by a lack of day-care facilities. In 1980 there were only 1.6 million licensed day-care slots—private, public, and commercial—while 7 million children under 6 had working mothers. But contrary to popular fears, children generally don't suffer as a result of their mothers' employment, Waite reports. According to an Urban Institute survey, "The overwhelming consensus of different studies is that most children of working mothers seem to develop normally and well."

Husbands too fare better than is generally supposed, says Waite. Various studies show that a wife's working makes little difference in marital relations although the chances of divorce go up among wives with their own income.

"One of the most visible contributions that working wives make to their families is additional income," Waite states. In 1978 the median income of husband-wife families with the wife in the paid-labor force was $22,110 compared with $16,160 for such families where wives were not working for pay. That difference not only spurs the demand for expensive cars, furniture, and vacation trips, she observes, but also gives two-earner families a hedge against inflation and unemployment and the margin to cover costly necessities like children's college education and new homes.

However, this picture can be misleading, warns Waite. For one thing, taxes reduce the benefits that two-earner families receive from the wife's job. Under current IRS regulations, a married couple with one earner pays less in taxes than they would if they were unmarried, but a married couple with one earner pays more—especially if both spouses have high and approximately equal incomes. The social security system, which, like the federal income tax, was introduced when only the husband worked in most American households, also discriminates against two-earner famileis. "In many cases, two-earner families pay more social security tax and receive lower retirement benefits than one-earner families with comparable incomes," says Waite. University of Chicago studies show, in fact, that "once taxes, additional purchases for work, and the loss of the woman's time in the home are taken into account, the two-earner families need about 30 percent more income than the one-earner family to have the same standard of living."

And then there's the male-female wage gap. Much of this is due to the fact that women are still segregated in clerical and service jobs—traditional "women's jobs" with traditionally low pay and few chances for advancement. Even profesional and technical fields where the proportion of women is rising, women still tend to hold the jobs that pay the least, like nursing and teaching, says Waite. Equal employment opportunity and affirmative action have eroded job segregation somewhat and prevented the male-female wage gap from

Continued on next page

WFS—more to come: Country reports from the continuing World Fertility Survey have been somewhat delayed, owing to problems with collection and analysis of statistics. Nonetheless, some eight or nine more are expected in the next year or so, including Venezuela, Syria, Ecuador, Haiti, Cameroon, Senegal, and Lesotho. The last three should be particularly interesting, to see whether they follow the higher than expected fertility rates reported for Kenya, the only African country to make a WFS report so far. INTERCOM will continue to publish summaries of WFS reports as they become available.

Continued from preceding page

widening, she reports. But until the early 1970's at least, the number of men moving into traditionally female occupations was larger then the number of women moving into traditionally male occupations.

Another factor in the wage gap is women's traditional pattern of dropping out of the labor force while their children are young, thus forfeiting their chances to build seniority and the promotions and pay raises that go with it. With more young women staying on the job, this could change, says Waite. But pure discrimination still persists, she says. One study found, for example, that even never-married women with continuous work experience averaged 57 percent of the earnings of men of the same age and education.

Women are making inroads into some high-paying, all-male strongholds, she points out. In 1980 women made up 13 percent of all physicians, up from 7 percent in 1960, and 13 percent of all lawyers and judges are now women compared to 4 percent 20 years ago. With that "and the strong commitment many young women now show towards their jobs, women's position in the American work force could eventually improve," Waite suggests.

In any case, women are clearly in the work force to stay, she concludes. Some experts feel that the rapid increase in women's employment is bound to slow and at least one – University of Pennsylvania economist Richard Easterlin – thinks the U.S. could be in for another baby boom and young women could revert to the 1950s and 1960s pattern of marrying early and leaving their jobs to tend to home and their growing families. But the Bureau of Labor Statistics – The chief federal watchdog of labor force trends – currently predicts that 58 percent to 65 percent of all adult women will be in the labor force by 1995. And "in the recent past, the BLS has constantly underestimated the growth rate of the female labor force," Waite observes. □

Additional copies of Waite's 43 page *Bulletin* (Vol. 36, No. 2), "U.S. Women at Work," may be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013, at $2.00 per single copy; 2-49 copies, $1.75 each; 50 copies or more, $1.50. Colored slides of the *Bulletin's* 13 figures and tables are available at $6.50 per set. For mailing inside the U.S., add 50 cents on orders of $5.00 or less. Outside the U.S., add 25 percent to the cost of the items ordered to cover handling and postage.

WHO Formula Code Meets U.S. Resistance

The widespread use of baby formula in Third World countries may end, if certain citizen groups and senior officials in the World Health Organization and UNICEF have their way. This year's WHO assembly opened May 4 in Geneva with a proposed international code to limit the marketing of breastmilk substitutes as its controversial major piece of business. The pamphlet that opened up the controversy in 1974, "The Baby Killer" (later republished in Switzerland as "Nestle Kills Babies"), charged that the increased use of bottle feeding in less developed countries led to an increase in infant mortality and was an unwarranted expense most mothers could ill afford. In response to six years of intense criticism since then, most baby food companies have altered their marketing techniques; this self-reform may lessen the code's chances for passage. American officials have indicated the likelihood of U.S. resistance to the code as constituting "blatant interference with the free market system." The various formula companies are expected to oppose any international restrictions on their $2 billion-a-year industry. □

PRB Wall Maps Chart World Fertility Patterns

Population Dynamics of the World, a revised and updated version of the much requested wall chart, *World Demographic Patterns 1980,* is being released to PRB members this month. The 23 by 35 inch four-color composite of four maps shows the latest estimates of total fertility rates, life expectancy at birth, rates of natural increase, and contraceptive-use prevalence rates.

Using the total fertility rate to measure fertility and life expectancy as an indicator of mortality avoids the confounding effect that different population age structures can have when crude birth and death rates are used to make international comparisons.

Another innovative feature of the new wall chart is that rough estimates of contraceptive use prevalence rates are shown for countries with no dependable national data. These estimates are indicated by diagonal lines and refer only to the possible range of contraceptive use.

The maps graphically illustrate the marked differences in these basic demographic parameters among regions and countries of the world. A panel on the back of the chart provides definitions of the measures used, how they were obtained and/or derived, and a description of some methodological problems that should be kept in mind especially with contraceptive use prevalence rates.

Population Dynamics of the World is one of a series of publications being produced by PRB's Compilation and Analysis of Population Data project, under contract with the U.S. Agency for International Development.

Single copies of *Population Dynamics of the World* are available free from PRB; for mail orders there is a $1.00 handling and postage charge per wall chart. (Bulk order handling and postage charges available upon request.)

Federal Cutbacks Imperil Adolescent Pregnancy Programs

by Emily Moore

"Reproductive freedom": What does it mean?

To some, it means encouraging unmarried minors to initiate sexual intercourse because abortion and contraception are easily available, and because parental authority has been eroded when schools offer education in human sexuality and reproduction.

To others, however, "reproductive freedom" means assuring the availability of correct factual information, counseling on alternatives (abstinence, contraceptive methods, pregnancy outcomes), and the provision of the means to control fertility in a context of comprehensive reproductive health care so that sexual and reproductive decisions can be consciously and responsibly made and values can be clarified (not indoctrinated) and brought to bear on such decision making.

Proponents of reproductive freedom have struggled for many years to assure wider access to sexual information and the means to regulate fertility. Their efforts have been rewarded with considerable increases in such access. Some of the gains are very recent: Only in 1973 was it possible for all women in the U.S. to obtain abortions legally, and only in the last decade have unmarried minors been able to obtain contraception from clinics in strict confidence. Some of these changes are extremely tenuous.

There is evidence that the long-term trend toward increasing access to reproductive information and services may be abruptly reversed. In recent months, conservative spokespersons in the Reagan administration, Congress, and interest groups have made statements on social issues that advocate a considerable rollback in federal funding. These statements include "the federal government has no role in funding sex education" (in fact, it has played only a minor role, funding evaluation studies and the development of model family life curricula); "the only acceptable birth control methods for teenagers is abstinence"; "unmarried minors should be required to have parental consent before obtaining contraception"; "categorical" grants specifically designated for family planning services should be replaced by "block" grants, combined with funds from 26 other health services, allowing each of 50 states to decide how much, if any, should be used to provide family planning services.

Finally, efforts to outlaw abortion have quickened, with several bills now before Congress.

How can we predict what would happen if mild or drastic changes were to be made? We have only our own past experience (pre-legal-abortion, pre-services to unemancipated minors, etc.), the experience of other countries, and the statements from persons queried on what they might do if such changes were made. None of these is entirely satisfactory as a basis for prediction, but they do offer us guidance in imagining plausible outcomes.

Abortion: What would happen if abortion in the U.S. were to become illegal again? When access to abortion was drastically curtailed in Romania in 1966, over the next few years admissions to hospitals for complications of abortion rose six-fold and maternal mortality rose five-fold; the birth rate shot up from 13 per 1,000 population to 40 (in nine months), then gradually dropped to below 20 again, thus creating a temporary bulge in the population pyramid. In the U.S., which enjoys better access to contraception than Romania did in 1966, many women would practice contraception more effectively. This may seem quite desirable, but certain individuals will run greater risks (e.g., older women who inappropriately choose to use the pill). Many more would either obtain illegal abortions or bear unwanted children; studies in Czechoslovakia and Sweden find that such children born to women who wished to terminate a pregnancy fare poorly compared with others.

Contraception: What would happen if federal funding for family planning services were significantly curtailed? Some women would undoubtedly find the means to obtain contraception from private physicians. Contributions to private agencies such as Planned Parenthood might increase. Some couples would switch to drugstore methods, or to periodic abstinence or withdrawal. A great many, however, unable to obtain contraception, would bear children. A number of recent studies have found family planning services to be unusually cost-beneficial; the average annual cost of about $65 to recruit and serve a client is little more now than a decade ago, despite inflation. Comparisons of the cost to avert a birth through family planning services with medical and welfare costs of pregnancies not averted have resulted in benefit-cost ratios of from $1.80-to-$1.00 to $14-$1 (depending on which public sector costs are included, and over what period of time).

The proposal to amalgamate family planning funds into block grants would result in a great deal of variation by state; family planning needs could be greatest in the states least willing to allocate block grant monies to family planning. Block grants would also preclude centralized evaluation and accountability, would cause the administrative costs to burgeon as 50 states would have to take them on, and could erode uniform medical standards.

Sex education: What would happen if federal funding for sex education were eliminated? Since such funding at present is only minimal, the observable impact would also be minimal. However, the expectation was that federal funding would make possible the implementation of model curricula and the dissemination of results from evaluation studies of family life education programs. Studies have found that the present role of parents as sex educators of their children is minor at best, but that many parents recognize their own need to obtain factual information and develop better communication skills. Many have blamed the increasing rate of sexual activity among teenagers on the inadequacy of both home and community-based sex education.

Government and parental involvement: What would happen if parental notification or consent were to be a condition for provision of services to teenagers? In fact, such a provision was recently upheld by the Supreme Court: a Utah law makes it a crime to perform an abortion on an unmarried woman under 18 living at home with her parents and dependent on them without notifying her parents. Parents may not veto the decision to have an abortion, but they must know of it. Following the court ruling, many other states may replicate this statute. Whether or not the parents can prevent the abortion, many teenagers will be deterred from obtaining

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Emily Moore is a specialist in the adolescent pregnancy field. She is currently a senior analyst at Analysts of Government Services, Inc., in Washington.

Enough Food to Feed Everyone

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output of grain along could supply every man, woman, and child more than 3,000 calories and 65 grams of protein per day – far more than the highest estimates of requirements. Eliminating malnutrition would require redirecting only about 2 percent of the world's grain output to the mouths that need it." And looking to the future, the recent *Global 2000* report of the U.S. government, while warning of many upcoming resource shortages, concluded that "the world has the capacity, both physical and economic, to produce enough food to meet substantial increases in demand through 2000."

Some 500 million undernourished people on the one hand; sufficient food (at present) on the other hand. How did this grim paradox develop?

One major food problem is distribution. Sufficient food exists, but it does not get distributed everywhere in the food-poor regions. And even a region such as Latin America, which overall is a surplus food producer (largely due to Argentine production), ends up with a significant proportion of the population of many of its countries malnourished; for Brazil, the figure is 13 percent; Chile, 15 percent; Ecuador, 30 percent; Guatemala, 38 percent; Haiti, 38 percent, Honduras, 38 percent, Mexico, 8 percent, peru, 23 percent. (These figures come from the FAO's Fourth World Food Survey for 1972-1974, the most recent figures available.) Figures for other areas of the world are even worse. Half of the Sahel region's population was seriously malnourished during the drought of the early 1970s, and India and Indonesia had 30 percent of their large populations in this unenviable category.

The other major problem is poverty. The food to feed everyone may exist, but the malnourished populations that need it most do not have the money to obtain it. The economic demand is not there to attract it. If the world's malnourished people had the purchasing power, most distribution and even production problems would evaporate, and the needed food would arrive.

Food Trends

During the post-World War II period until the early 1970s, world grain production nearly doubled, with considerable improvement in the world's diets. But in the past decade increases in grain production have only kept even with population growth. In the early 1970s the world experienced several bad harvest years in a row. India, Africa, and other regions experienced famine conditions, the partial alleviation of which depleted world food reserves. The mid-1970s saw several exceptionally good harvests, but 1979 and 1980 were bad years, and it is possible that as a result, world cereal stocks relative to world consumption could soon be as low as during the disastrous early 1970s.

The population of the less developed countries is growing at about 2.4 percent a year (excluding China). During the 1970s food and agricultural production in the less developed countries grew at an average of 2.6 percent. In sub-Saharan Africa, population actually grew faster than food production, resulting in a continuing per capita decline.

Finally, the number of countries that are major food producers is shrinking. Whereas 30 or 40 years ago all the world's regions were self-sufficient in food (with the exception of Western Europe), one by one countries have been slipping into the net import category. Now most of the world is either barely self-sufficient or a net importer. The major exporters are the United States (which exports 50 percent of all the world's grain), Canada, Australia, New Zealand, and Argentina.

In brief, the situation has changed from one in which most of the world essentially exported food to Western Europe to one in which North America is to a large extent exporting (on a net basis) to the world. And there are signs that the U.S. is producing grain at close to its present capacity, with low stockpiles and little land lying fallow in "soil banks," in contrast to the recent past.

1979 was not a good year for world food production, and 1980 saw an increase over 1979 of only 0.2 percent (while population rose by 1.7 percent). During the 1980s, the FAO's goal is for agriculture production to increase by 4 percent a year, and for arable land usage to increase by some 5 percent by 1985.

The 1980s may indeed see at least a temporary gain in the race between food production and population growth, according to the 24-nation Organization for Economic Cooperation and Development. But an OECD official has said: "There is more fear for the longer term, say 10 to 15 years from now,

Continued on next page

*The FAO has defined undernourishment as daily food intake below 1.2 times the Basal Metabolic Rate. The BMR is the minimum amount of energy required to power human body maintenance. (It does *not* include energy required for activity.) 1.2 times the BMR is a conservative measure; undernourishment could as easily be pegged at 1.5 BMR.

Continued from preceding page

the procedure legally, causing some to seek illegal abortions and others to bear a child.

But if *involuntary* parental involvement in the provision of family planning to their children would cause few adolescents to discontinue sexual activity, and would deter many from obtaining services, *voluntary* involvement of parents has been found in one study to enhance effective contraceptive practice among adolescents who have had supportive families (this notion is now undergoing more rigorous testing in a six-clinic study). A recent survey of family planning clinics found that may of them are involving parents in ways that do not violate privacy nor deter teenagers from seeking services. These activities include training sessions for parents to be sex educators, voluntary inclusion of parents in clinic sessions with their daughters, counseling for parents (often teens and parents choose to be in a group with someone else's family for these sessions). However, not all families are alike; while some may come to terms with their teenagers' sexual activity and support them in their use of contraception, others may not do so; a uniform policy of involuntary parental involvement could not take variations in family situation into account.

Although increasing numbers of teenagers have become sexually active over the decade of the 1970s, the teenage fertility rate has decreased. That much of this decline in birth rate is due to abortion is evidenced by the simultaneous increases in pregnancy rates until 1975. However, pregnancy rates among sexually active teenagers have begun to decline, particularly among the younger teens 15-17, since 1975, suggesting more widespread and effective use of contraception. To jeopardize this encouraging trend would surely be ill-advised. □

because of the big gains in productivity we've seen have started to decline." That is, by the 1990s, the practical limits to farm mechanization and farmland productivity may have been reached. And "unless there are further major breakthroughs in technology about equal to the gains we've already made, it will be difficult to produce all the food that's needed in coming decades."

If the present is any indication, two fundamental trends are liable to characterize the food situation of the late 20th century:

1. *North America will become, to an even greater extent, purveyor of food to the world, insofar as it is capable of doing so.* Just as the U.S, despite protestations of "energy independence," became a larger and larger oil importer during the 1970s, so may most nations become even larger food importers as they continue losing the capacity to feed themselves.

2. *The price of food is certain to rise.* As demand increases along with population growth, and if the world starts running out of tricks to increase productivity and land under cultivation, the price of food is likely to continue to rise, as it has since the early 1970s.

This rise may also be exacerbated by distortions in the demand: Some markets may be more willing and able to pay higher prices, thus driving up the price for all. (More developed countries can afford feed for livestock more easily than many less developed countries can afford food; and producers of gasohol may compete for agriculture products and land under cultivation, also serving to drive up prices as the demand for fuel competes with the demand for food.)

Finally, the swelling price of energy may serve to drive up the costs of agricultural production, and/or make that production less energy-intensive, and less efficient.

UNICEF/Jacques Danois

African famine victims line up for emergency high-protein food mixtures donated by UNICEF.

What Can Be Done?

As a candidate, President Reagan answered a press conference question about Global 2000 by saying that according to studies he had heard about, if all the arable land on earth were farmed at the same efficiency as U.S. farmland, the earth could support 28 billion people. (See INTERCOM, March 1981, page 12.)

Like most speculation on the theoretical "carrying capacity" of the earth, this statement assumed a great deal. The most one can say about the earth's carrying capacity is that, theoretically speaking, it could one day be many billions of persons. But in the here and how, judging from the pockets and swaths of malnutrition currently existing in the world, the earth has already outstripped its carrying capacity in many places. The "bare spots" in world food supply are beginning to show.

Nonetheless, observers point to several steps that if taken, could ameliorate present problems and help keep agricultural production ahead in the race with population growth:

1. Productivity must be increased to prevent countries from becoming even less self-sufficient than they already are. While research and development (in such areas as new hybrids and growing methods) are important, such technological "breakthroughs" require a long lead time before they get into general use. In the meantime, productivity in much of the less developed world could be increased simply by better application of ordinary "low-tech" farming methods – everything from soil conservation to the steel plow.

2. Redistribution of income, besides whatever changes it might make, would build up the purchasing power of the world's poor and hence the supply of food.

3. The upward tug of prices due to competing interests in the marketplace (gasohol, more affluent customers, etc.) must be counter balanced in some way, at least for countries with little ability to pay.

4. More effort and funding should be put into emergency preparations; so far, however, planning for future "lean years" has been insufficient. International food-aid goals have not been met, and the lack of an internationally coordinated system of national cereal stocks around the world is making a future food crisis more likely.

5. The mechanics of distribution and storage can be improved. Better transportation and pest control alone would help increase food availability by a considerable margin.

The ultimate solution to world hunger, however, is most likely to be simple commitment. The world has come a long way since the 17th century, when towns such as Breteuil would starve while neighbors prospered. In the 20th century, many of the more developed countries maintain food aid programs on the side, while the world food economy runs on as usual. Whether such aid is a token effort or a real commitment of conscience remains to be seen. The ultimate historical question, yet to be fully answered, is whether the more developed world finds the status quo of half a billion undernourished persons "acceptable." □

demographer's page

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The Decline of Population Growth Among the Hutterites

by Karl A. Peter

The Hutterites are an Anabaptist sect settled in the northwestern U.S. and Canada who live communally and hold property in common. While a relatively small social group, they drew world-wide attention after Eaton and Mayer in the 1950s were able to document their unique population growth patterns.[1] Eaton and Mayer's findings, that Hutterites (a) closely approximated the theoretical model of a stable population and (b) were growing at a rate of 4.1 percent per year, were received with amazement and awe among social scientists, particularly demographers. The Hutterite growth rate was described as "startling," "phenomenal," "rampant," and the group itself was touted as a "demographic epic," "a demographic museum piece," "the high fertility champions of the world." Since their rapid growth was combined with a higher than average level of inbreeding, there was even speculation that Hutterites might represent "a superfecund strain of the human species" that could eventually find itself up against "a Malthusian wall of declining living standards."[2] (Kenya's population is now reported to be growing at this high percent rate; see INTERCOM, October 1980.)

During the three decades following the Eaton and Mayer study, little or no scientifically reliable data were collected on the development of this unique population. The obvious reason for this neglect was the continued observable expansion of Hutterites, which on the basis of newly established colonies made a rough calculation regarding the ongoing rate of natural increase possible. The data generated in this way were in remarkable agreement with the predictions made by Eaton and Mayer. Further support for the continuance of Hutterite growth patterns came from the self-enumerations of the group, which from time to time were made public in various ways.

It was not before 1977 that serious discrepancies between the expected growth according to Eaton and Hutterite self-enumerations were discovered by the present author. According to Hutterite self-enumerations, the rate of natural increase seems to have declined starting in 1965. The data indicate that the growth rate of the Hutterites declined from 4.1 percent per year during the 1880-1950 period to 2.9 percent per year from 1965-1977 – a decline of 1.2 percentage points. Data recently received by the author show a further decline during the 1977-1980 period to 2.4 percent per year. (These data show that out-migration is a negligible factor in Hutterite population change.)

Table 1
Population Estimates and Population Enumeration by Hutterites

Item	1964	1968	1977
Expected	15,045	17,687	25,451
Actual	15,249	16,931	21,828
Increase or Decrease over Expected	+ 204	– 756	– 3,623

Having stated these findings, it is appropriate to add a word of caution in regard to their reliability. Hard data in the form of scientifically collected census data are not available due to the difficulties in collecting demographic data on a population dispersed over vast areas in the U.S. and Canada. What is available is a series of Hutterite self-enumerations of unknown accuracy. Self-enumerations tend to underestimate. But if one assumes that the magnitude of underestimations remains fairly constant, a comparison of Hutterite self-enumerations over time can give a fairly accurate picture in regard to the population trend even if figures themselves are not entirely accurate. Our investigation is based on these assumptions.

If one starts with a total Hutterite population of 8,542 as found by Eaton and Mayer in 1950 and assumes a compound net increase of 4.1265 percent per year, the expected population increases can be plotted against those statistics found through Hutterite self-enumerations. (See Table 1.) The population can also be broken down according to kinship groups. (See Table 2.)

Can the decline in population growth of Hutterites be verified by sources independent of the Hutterite Rev. Paul Gross (from whom the Table 1 figures originated)? Fortunately, such an independent source seems to be available in "The Agricultural Economy of Manitoba Hutterite Colonies"[3] by John Ryan. Being

Table 2
Hutterite Population Counts According to Kinship Groups and Percentage Rate of Natural Increase

Kinship Group	1964	1977	Annual Rate of Increase 1964-1977
Lehrerleut	4,338	6,312	3.0
Dariusleut	4,383	6,512	3.2
Schmiedeleut	6,528	9,004	2.6
Total	15,249	21,828	2.9

concerned with the Manitoba Hutterite population only, Ryan found that this population in 1970 was 4,666 and increased in five years up to the end of 1975 to 5,194. This is a total increase of 11.25 percent or a compound rate of increase of 2.2 percent per year. In Appendix B and C of his book, Ryan presents a population count of Manitoba Hutterite colonies for July 1, 1968 based on genealogy records of the Rev. Jacob Kleinsasser of Crystal Spring Colony and a population count for December 1970 based on income tax records provided by the accountant employed by the Manitoba Hutterite colonies. According to these counts the Manitoba Hutterite population increased from 4,362 on July 1, 1968, to 4,666 on December 31, 1970. That amounts to a compound rate of 2.73 percent per year Ryan presented his data detailed as to colonies and the number of families involved.

Our conclusion that the Hutterite growth rate has dropped from 4.1 percent per year to 2.9 percent per year is not proven beyond any doubt by these statistics. What can be assumed with a high degree of certainty, however, is that around 1965 a drastic change occurred in the constant growth rate that had characterized Hutterite society from 1880 to 1965. The question is: What factors caused this change?

It seems that under the impact of modern technology, Hutterite society has entered a phase where a major revamping of its social structure is underway, causing unemployment particularly among its young males due to a shrinking of the division of labor. In the 1930s the Hutterites made the important decision to utilize modern technologies in their mode of production realizing that this was necessary to obtain the degree of efficiency which alone could safeguard the capital accumulation for expansion. Increasingly, efficiency and technology have made it necessary to restructure the division of labor. The result is a transformation from a socially oriented to a technologically oriented division of labor. Such trades as shoemaker, breadcutter, tanner, furniture maker, bookbinder, broom maker, etc., were labor-intensive occupations but low in efficiency and profitability. Their existence could be justified by reference to their social value as status positions for individuals, not by reference to their economic utility.

In an increasingly technologically oriented social structure, however, the status of any one position is very much dependent on its economic utility for the group. The traditional positions like shoemaker, tanner, etc., slowly died out as status positions because their economic utility was minimal and their social value became redundant.

The trend toward a much smaller division of labor among Hutterites is further accentuated as technological improvements are constantly adopted. In many cases, modern equipment today allows one person to do the work that was done by five persons 10 years ago. Under these conditions the pool of young adults over age 15, which formerly performed the manual labor in Hutterite communities, is no longer employable all the time. The mechanization of hog raising, egg production, and milk production, for example, has changed these into one-man operations that no longer depend on the unskilled labor of young men. Hutterites today no longer need a large pool of young people to run efficient and profitable operations. On the contrary, unemployable and idle young men are a source of social problems, undermining the social order of the community. Unable to find meaningful work in the communities, these young people tend to associate with their peers outside the communities, thereby introducing social habits and attitudes which are disruptive of the traditional order.

The irritating and dysfunctional presence of too many young men, of course, translates itself only very slowly into a reduced rate of reproduction. A realization of this kind must work itself through a great number of social habits and traditional attitudes until it becomes effective. Most Hutterites agree, however, with the statement, that compared with only 20 years ago, young people today tend to marry four to five years later. Such a tendency is very much related to the longer waiting period for individuals to move into higher positions in the division of labor. Since marriage designates full manhood, the growing of a beard, and the opportunity of status advancement, a shrinking number of jobs that carry such status would postpone social advancement which in turn tends to discourage marriage. And the postponement of marriage for four and five years during the most fertile age period of the 20s, of course, leads to a decline of the overall fertility rate.

It is interesting to note that the structural problems caused by an increasingly technologically oriented social structure also has led to a constant decrease in colony size. The constance of this decrease is quite remarkable. (See Table 3.)

Table 3
Number of Hutterite Colonies and Average Colony Size

Year	No. of colonies	Population per colony
1950	87	98
1964	162	94
1969	182	90.3
1977	247	88.37

Summary

The population changes among Hutterites seem to be correlated with technological changes which have led to a far-reaching restructuring of these colonies. A much reduced division of labor and the redundancy of a formerly much-valued pool of manual labor has decreased the utility of a large number of children. Instead they have become a source of deviancy due to underemployment and lack of satisfying status positions.

Postponement of marriage seems to be the means by which the decline in the growth rate was obtained.

Continued on next page

4th Edition of Tietze's Reference Work:

Abortion Rate a Function of Law, Culture, Contraceptive Access

As an issue of wide political and social dimension, abortion has of late become more controversial in the United States as groups advocating both "pro-choice" and "pro-life" legislation become more vocal in their demands for government policies favorable to their viewpoint. The fourth edition of *Induced Abortion: A World Review, 1981* is a comprehensive wrap-up offering a balanced, statistically based analysis of the abortion issue worldwide that, by presenting the best information possible, is a valuable contribution in clearing up the confusion surrounding the issue.

Examining a myriad of statistics almost exclusively taken from legal abortion records, Tietze points out a number of current trends. In all countries where information is available, the incidence of abortion is greater in urban than rural areas, and legalization has led to women seeking abortion earlier in the period of gestation, thereby decreasing the risks involved. In recent years, between 57 and 59 percent of all abortions in countries as diverse as Czechoslovakia, France, India, Japan, and the United States were obtained by women aged 20-34, although distribution by marital status varies around the world.

Geographically, in terms of degree of legality of abortion, the world is divided into several camps. The areas with the most liberal laws allowing abortion (on demand or with very few restrictions) are largely in Europe, both east and west, North America, and Australia. The Nordic countries were the leaders in liberalizing their laws (beginning in the 1930s), although the USSR was the first to allow abortion on request in 1920. The laws are generally restrictive in most of Latin America, southwest Asia, and northern Africa and in all of the newly independent countries of Africa south of the Sahara, except Zambia, the laws instituted under European colonial rule making it illegal are still in effect.

Information on abortion rates around the world shows that prohibiting abortion or restricting access to it does not necessarily eliminate it; for example, although it is illegal under any circumstances in Portugal, the country nonetheless has a significant ratio of abortions to live births. What is also apparent is that in many countries lack of adequate knowledge or supply of contraceptives leads to a higher abortion rate, as in Japan and the Soviet Union. Conversely, legalization of abortion does not per se lead to an increase in a country's rate. Many factors, such as adequate facilities and access and social acceptance of abortion, play an important role in determining its rate, especially in developing countries.

There are a number of reasons cited in Tietze's book to account for the liberalization of abortion, which has really only occurred on a large scale within the last 10-20 years. One of the most important is for reasons of public health. With the legalization of abortion in the United States, the incidence of death from the procedure is now below the number of deaths associated with use of the birth control pill. Other considerations relate to issues of social justice and women's rights.

Although liberalization of abortion laws occurs only rarely from an express desire to control population growth (Singapore, Tunisia and China are examples where this has occurred), Tietze shows that nowhere has there been a reduction in the birth rate to a low level without significant recourse to abortion, legal or illegal. This fact may prove to have important ramifications for future policy formulation around the world. □

Copies of *Induced Abortion: A World Review, 1981* (4th ed.) by Christopher Tietze, are available for $4.50 each from the Population Council, One Dag Hammarskjold Plaza, New York, N.Y. 10017.

demographer's page

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Postponement of marriage on the other hand, seems to be correlated with a later entry of the male Hutterite into the status hierarchy of the colony. A decrease in the average population per colony seems to indicate the extent of the structural changes that have occurred, and these changes, together with a decline in the growth rate, constitute the Hutterite response to technological change. □

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Spermicide-Containing Vaginal Sponge Shows Advantage over Diaphragm

A new vaginal sponge now being studied in Bangladesh, Colombia, and other countries appears to have an effectiveness that compares favorably with other female barrier methods. The Collatex sponge (manufactured by Vorhauer Laboratories, in California) contains the spermicide nonoxynol-9, and according to the International Fertility Research Program is seen as more convenient than the diaphragm, in that it does not require application of spermicide with each use; one size can be used with all women; it is intended as a nonprescription contraceptive and can be inserted up to 24 hours before coitus. The most recent preliminary six-month pregnancy rate reported for the Collatex sponge is 6.0 pregnancies per 100 women; IFRP is continuing its studies. □

Annual Meeting—Part 2

PAA Looks Back 50 Years to Its Beginnings

The Population Association of America held its 50th Anniversary meeting in Washington, D.C., March 26-28, with some 1200 members attending. Coverage of a sampling of sessions appeared in the April INTERCOM. More sessions, the Presidential address, and a final PAA wrap-up appear below.

Breastfeeding and Population Growth. The recent upsurge of interest in the effects of breastfeeding was demonstrated by the unusually large number of papers dealing with some aspect of that topic presented in PAA sessions on fertility and mortality. Also, for the first time at the annual meeting, there was a session devoted entirely to breastfeeding, which included three papers tracing recent trends in breastfeeding data, these papers constitute a valuable contribution to the small body of literature on breastfeeding trends.

Evidence of declines in breastfeeding in two developing countries, Malaysia and Taiwan, were reported, along with data showing increases among women in the U.S. William Butz and Julie DaVanzo of the Rand Corporation, using data from the Malaysian Family Life Survey, found that both the proportion of children breastfed and the age of weaning had declined in Malaysia since 1960, and attributed some of that decline to changes in the opportunity costs of breastfeeding (as women command higher wages) and in the availability and costs of breast milk substitutes and alternative child care arrangements.

A paper presented by Sara Millman of the University of Michigan showed a dramatic decline in breastfeeding in Taiwan. While in 1966 almost all (92 percent) babies were nursed by their mothers, by 1980 only about one-half of the new born babies were being breastfed. Educated women, women living in more urbanized areas and those employed outside the home were even less likely to breastfeed their babies in Taiwan and when they did so it was for fewer months. An opposite trend was noted for the U.S. in a paper by Gerry Hendershot of the National Center for Health Statistics. The proportion of American women choosing to nurse their babies has been increasing since about 1974, particularly among the more educated white women.

Reconsidering Population Growth and Development in Less Developed Countries: Predictions from the 1950s and 1960s. In this session, an historical perspective of demographic projections was presented by four well-known demographers. Ansley Coale of Princeton University pointed out that Mexico has not proven to be a good example of "development is the best contraceptive" as the country has doubled its population since the 1950s while doubling per capita GNP and gaining well in life expectancy. He along with Kingsley Davis of the Center for Advanced Study in the Behavioral Sciences and Frank Notestein reflected on the fact that the most serious errors in demographic projections of the 1950s was the failure to predict mortality declines and the onset of demographic transition in less developed countries. Coale noted that while some developing countries have been able to post moderate gains in living condition with rapidly growing populations, it is also true that they would be far better off if some of that growth had not occurred. Davis commented that the idea of population causing problems in the future forgets the reality that the world is in a catastrophic situation now and that "catastrophes come so slowly that we just get used to them." Finally Notestein commented that the early days of demography suffered greatly from the simple lack of data with which to work and complimented many organizations such as the UN and university research centers on the comparatively large body of data now available.

Reproductive Timing and Childspacing. David E. Bloom of Carnegie Mellon University reported on the increase in childlessness among the younger generations of women—both white and nonwhite (an estimated 20 percent will not have children). The prevalence of childlessness contradicts the popular view that America's recent low birth rates are due to delayed childbearing, rather than ultimate childlessness among women.

Nonwhites tend to have their first babies at earlier ages and have a lower mean age at first birth than their white counterparts, and while the trend in age at first birth is stable among nonwhites, white women are experiencing an increase in the mean age at first birth. This does not mean that the teenage pregnancy problem has disappeared, however. On the contrary, the earliest age at which an appreciable number of first births occurs has dropped substantially for white teenagers.

Labor Force in Developed Countries. Patricia Roos, the National Academy of Sciences, reported that, based on her 12-country study of occupational distribution, women are less likely than men to participate in the paid labor force. They are also more likely to end up in low-paying jobs and part-time employment. Women are less able than men to capitalize on individual education and talents. Why? Is it because of discrimination or because (the argument goes) women spend more time on family responsibilities and therefore hinder their own chances in the labor market?

Roos's study of working women in 12 developed countries shows that single and married women exhibit few differences in the kinds of work they do. Single women, although more likely to work, and more likely to work full-time, do not become integrated into better paid traditionally "male" jobs any more than married women. There are few discernable differences in the overall employment prestige and wage rates of single and married women.

Occupational differences between men and women cannot be attributed to "family responsibilities" of women. Rather, across industrial society, it appears that institutionalized discrimination inhibits women's employment.

PAA at Age 50. One of the most notable sessions of the annual meeting took a look backward at PAA's beginnings a half-century ago. Conrad Taeuber was the moderator for this session.

A paper by Clyde Kiser, read by Anders Lunde, reported that at the end of the 1920s there was no U.S. organization that had a single focus on population. At that time, Prof. Henry Pratt Fairchild, head of the Graduate Dept. of Sociology at New York Univesity, invited people in the fledgling population field to gather and discuss starting a population organization. On May 7, 1931, at the Town Hall Club at 123 W. 43rd St., in New York, the founding meeting was held, attended by 38 persons, including birth control activist Margaret Sanger and Guy Irving Burch, Director and Founder of PRB two years before.

Sanger nearly became the first PAA President—she was nominated. But it was pointed out that if elected, as PAA president she would trail clouds of controversy behind her, and on her own volition she withdrew her name. Fairchild was ultimately elected president. (Fairchild was already serving as PRB's first president at that time, though it was a titular position, as Burch ran PRB but did not want to be called "president.") PAA had been born.

The following year, 1932, saw the first annual meeting, and PAA "firmly under the control of scientists" (as opposed to birth control advocates). Again the site was the Town Hall Club, and a grand total of two sessions were held, with papers delivered on such then-hot population topics as "Occupational Planning in the Light of a Declining Rate of Population Growth," and "The Source of Feeble-Mindedness."

By this time, PAA had created the College of Fellows, an elite group of some 50 demographers and other population specialists that pretty much controlled the reins of the organization.

Frank Lorimer, who was there at the creation, told the assemblage that PAA was an organization that came into existence at a time when population issues and a need for various kinds of population data were beginning to make themselves felt; e.g., insurance companies needed accurate age-specific death rates.

Frank Notestein, also there at the creation, described the Malthusian fears of population growth that were prevailing at the time, and how contraceptive activists almost ran away with

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the movement. (By the late 1930s, however, books with titles like *The Twilight of Parenthood* would be appearing.)

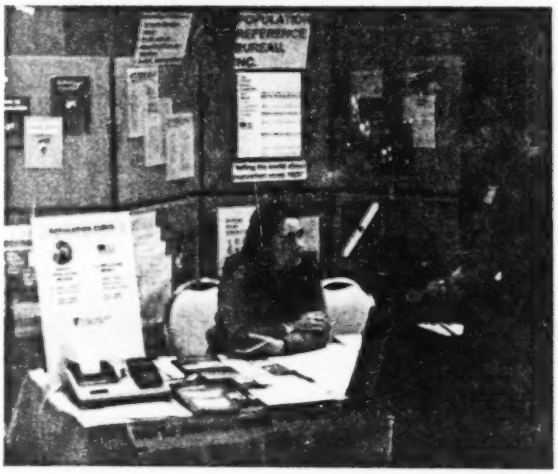
PAA meetings during the 1930s were different from those today. The sessions were spaced so that evey attendee could hear every paper being read. Dinners were black-tie affairs. And Eleanor Roosevelt once came to a meeting and sat in the audience and did her knitting.

Anthropologists' Perspective on Demography. This was a luncheon led by Nancy Howell of the University of Toronto and author of *The Demography of the !Dobe Kung*. After the participants briefly discussed their respective field experiences, the question was raised, "Is it better for a demographer to go into the field and hire local anthropologists to assist him or her, or would it be better for anthropologists to conduct the study in the field and work with a demographer when it came time to do the analysis of data?" John C. Caldwell, with years of field work in Africa and India under his belt, expressed his criticism of the use of any survey in the field which was not preceded by years of knowledge of the local culture, which would assess not only the applicability of the questions, but would help formulate new and more appropriate questions. Howell ended the luncheon with a plan to introduce a session on Anthropology and Demography at next year's PAA meeting.

U.S. Immigration: Contemporary and Forthcoming Demographic Consequences. This session was devoted to the "hot" immigration issues in the U.S. today. Deportable aliens, the Cuban "Freedom Flotilla," and the settlement patterns of recent immigrants were discussed in an interesting blend of demography and policy. Chris Davidson of the U.S. Immigration and Naturalization Service (INS) revealed that the months of peak apprehension of illegal aliens were April-August, and the median length of time in the country before apprehension was 5.5 months. 50 percent had been in the country one year or less when apprehended. Davidson concluded that this could mean either that the median length of stay for aliens is less that one year, or that aliens who remained longer tended not to be apprehended.

Robert Bach from the State University of New York, Binghampton, followed with a demographic profile of the 1980 Cuban "Freedom Flotilla" entrants, comparing them with preceding waves of refugees. They are younger and more representative of Cuba's total population, in particular, there were more blacks, mulattos, and more diverse geographic representation, He drew a distinction between those who relocated to Miami and those sent to camps—the former tended to be more predominantly white, female and married. Most of the refugees were actively employed in Cuba, particularly in the craft and manual labor professions. Though these are modest origins, they are similar to those who came via the "aerial bridge" in 1970. Bach stressed that they were not marginal to the Cuban economy, and that they had average or slightly above average levels of education. Counter to the widespread impression, promoted by the media, that most of the refugees were criminals, Bach found that only 16 percent had been incarcerated, many of whom had not actually committed crimes but had deserted the army (refusing to go to Angola), refused to work in the sugar fields, or other self-proclaimed political acts. All in all, Bach concluded that the "Flotilla" entrants do not warrant the negative image they have received. The Flotilla may have historical significance he suggested, in marking the end of a liberal refugee policy for the U.S.

Wen Lang Li of Ohio State University studied the residence patterns of immigrants using 1976 SIE data, to try to determine whether immigrants were more mobile than the native U.S. population. The Middle Atlantic region was found to be the most frequent destination for immigrants, Ninety-four percent of Hispanics were concentrated in 10 states, as opposed to 77 percent for Asians, suggesting that Hispanics are more regionally concentrated. Hispanics were also found to be more concentrated in central cities, While Asians had more diverse settlement patterns. Likewise, Hispanic immigrants had a low rate of mobility (0.14 percent), whereas Asians had a high rate of 11.2 percent. The greater tendency of Hispanics to form ethnic enclaves, providing jobs within their own community, was Li's explanation for this difference in mobility rates. The total rate for immigrants was 11.7 percent, as opposed to 10.9 percent for the total U.S. population, not lending much credence to the theory that immigrants have a greater tendency to migrate than the native population. Li measured the impact of immigration on population growth and found that 36.2 percent of total U.S. growth was due to immigration.



Carl Haub

PRB's Martha McGrath answers population questions at the PRB booth during the 1981 PAA meeting.

Current Issues in Family Planning in the United States. William R. Grady states differences by religion in contraceptive failure rates are disappearing. Between Catholics and non-Catholics, there is no longer any appreciable difference in contraceptive failure. The factor making more of an impact is whether or not the woman is seeking to prevent childbearing completely or merely delaying a pregnancy to a later date. "Delayers" are more than twice as likely to experience contraceptive failure than "preventers." Age also makes a difference—younger women are more likely to experience failure during the first year of contraceptive use, especially when they are relying on traditional methods.

Demographic Issues in the People's Republic of China. Chinese statistics must be viewed with skepticism, warned Judith Banister of the U.S. Census Bureau. For example, official statistics indicate that the government has been just as effective in rural areas in reducing fertility as it has in urban areas—a tenuous conclusion since rural residents are generally much more resistant to family planning measures than urban dwellers. Banister contended that local leaders might have political incentive to manipulate the numbers to show greater fertility drops than is really the case. With this in mind, she made several suggestions for increasing the accuracy of the forthcoming Chinese census: (a) special efforts should be made to find missing households; (b) census directors should not live in the areas they are responsible for counting; (c) census counts should be transported directly and promptly from the locality to the central depository for statistics, without the opportunity for tampering by government officials.

In 1978, reported Shaoxian Wang of Beijing Medical College, China moved from its policy of encouraging fewer children and childspacing to an even more vigorous approach: encouragement of the one-child family. But in China, where 80 percent of the people live in rural areas and there has been a traditional belief in the value of large families, the policy has met with resistance, particularly in the rural villages. Much of this opposition comes not from young women—many of whom are in favor of limiting their family to one child—but from their in-laws, who are more deeply preoccupied with tradition and worried about the possibility that the one child might not survive.

Despite this opposition, however, China's one-child policy is being implemented step-by-step in the villages and has met with a high degree of success in the cities. The policy includes: increased maternity leave (from two months to six months) for women who agree to postpartum sterilization; supplementary income for the one-child family; older persons without children will now receive 100 percent of their previous salary (up from 70 percent) in retirement benefits, while special committees have been established to look after childless older people;

strengthening of social services, especially for older people; the introduction of welfare services to the villages; raising civic consciousness; improving health care; improving the sterilization procedure, particularly emphasizing reversability; changing marital customs—for example, encouraging the husand to move to his wife's household (traditionally the wife always moved to the husband's household)—thus providing a guarantee that the parents of daughters are cared for in old age.

Discussant Robert Lapham of the National Research Council noted, that while he also thought that the reported Chinese crude birth rate of 18 was probably too low, he questioned the emphasis placed upon the falsification of statistics per se. He also introduced the interesting notion of the effect of the one child family, which would lead to one half of Chinese having no sons, upon a society which has placed great social value upon a male child.

R.T. Ravenholt rose to comment that he felt that it was time to accept Chinese statistics and that those falsifying the data at the local level would be held accountable. Bannister pointed out, however, that articles in the *Peking Daily* did make reference to local manipulation of figures. Dr. Kang Wang of Beijing University then addressed the group saying that China is a backward country which must, like a speeding automobile, "put on the brakes." He believes that the Chinese policy can work and that the younger women have accepted it, although many of their parents do not. Success with the policy of a one-child family will mean a Chinese population of 1.2 billion by 2000.

A Chinese Population Association has been established and a Family Planning Commission has been set, a higher government level than in the past.

Women and Development. This session chaired by Nadia Youssef of the International Center for Research on Women, provided a forum, welcomed by the packed and interested audience, for the discussio of issues facing women in the process of development.

Constantina Safilios-Rothschild of Pennsylvania State University led off with a summary of world trends in the effects of development on women. Women are now more frequentiy found as farmers and heads of households in developing countries, yet development aid continues to be directed at males. Machinery is being introduced to cut down the work of men, while increasing the work of women. Women must then turn to their children for help in completing the day's tasks, making children a valuable commodity to these women. Thus, development can encourage women to have more children (e.g., the present rising birth rates in Sub-Saharan Africa) perpetuating an intergeneration cycle of poverty.

Jerome Segal of AID discussed the necessity for assigning a marketplace value for home production to give recognition to the value of "women's work" and to make development investment decisions. Another member of the audience suggested that a more comprehensive body of theory incorporating total household production, rather than that of either males or females, was needed.

Research Opportunities Using Data from the National Center for Health Statistics. Dorothy Rice of NCHS reported that Round Three of the Family Growth Survey will be carried out but with a reduced sample size—7,000 instead of 14,000, and the Public Health Service will help fund it. Field work will be completed by early 1982. The President's budget included the same amount as in the 1981 budget. "There will be some damage." The survey will be done every fifth year instead of every third. The health interview survey will be reduced.

New NCHS ventures include: following up on Hanes 1 survey; Hispanic health and nutrition study, 12,000-15,000 people; national medical care costs survey; a national death index of deaths occurring in 1979, determine when people died and death record filed.

Mary Grace Kovar of NCHS speculated on the reasons NCHS data are not being used sufficiently for research: People think of NCHS as a health data system—actually lots of demographic data are being collected; though NCHS does not collect data on specific subject matter but provides data systems. As examples of the kinds of questions NCHS was equipped to answer, she listed: What is the health of adolescents? Are married men more or less happy than single men? How do people ract to retirement—difference between men and women? How is pregnancy affected by anemia? Are breast-fed babies fed better, do they do better in school?

Fertility Trends and Policy in Western Europe. In a session on Western European population trends and policies, Henk Heeren of Utrecht University (The Netherlands) reported that low birth rates continue to worry West Germany and France and some German states and France have increased marriage and child allowances, though still not enough to encourage larger families, Heeren felt. On the other hand, the British public seems indifferent to the U.K.'s recent dip in births below the level of annual deaths and the Netherlands government has gone on record as welcoming the imminent end of population growth there. In the same session, Alison McIntosh of the University of Michigan said that in France the chief worry seems to be that it could be non-natives who will account for what little excess of births over deaths there may be in the future while Swedes are embarrassed to push for resumption of population growth at home because Sweden was the first developed country to fund family planning in the Third World (in the 1950s) in an effort to slow global population growth.

Presidential Address. Delivering her keynote address to a packed audience of PAA attendees in the Hilton's ballroom, PAA President Judith Blake, of the University of California, Los Angeles, described her recent researchers on "Family Size and the Quality of Children." According to study after study the fewer brothers and sisters a person has, the higher his or her educational attainment, reported Blake. Number of siblings ranks along with father's socioeconomic status as "far and away" the most important determinants of a person's educational attainment, and the more brothers and sisters, the higher the father's socioeconomic status must be if educational attainment is not to decline. Even coming from a broken home proves to be less of a hindrance to a child's educational attainment than being one of a large family.

What is the reason for this? Blake reports that "children are more motivated by parental attention and encouragement than by material advantages" and this attention decreases as family size increases.

The results of this kind of research can possibly help couples choose the number of children they want. By the time in life they are making this decision, Blake says, "their socioeconomic status is typically no longer very readily affected by choice." But they can opt not to have six children, and making such a choice "is a way in which all parents can still affect the quality of their children."

PAA Press Coverage. *To spotlight this 50th anniversary meeting and capitalize on members' increasing recognition that they need to be heard beyond the ivory tower, PAA arranged for the first-ever official meeting press coverage. News releases and a press room coordinated by Cynthia Green of the Population Crisis Committee and Jean van der Tak of PRB resulted in several wire service and radio network stories and a cable TV interview with glamorous Judith Blake on the research findings highlighted in her PAA presidential address.*

PAA Sidebars. *Among a few non-demographer attendees, there was some complaint about the presentations at the sessions. Doing research and even writing up the research seem to be far different skills from orally presenting (or reading) the same research at a session.*

In some cases 99 sleepy audience members would listen in silence as one person mumbled through with no photocopies of the paper or results available to the audience and no abstract appearing in the "Abstracts" pamphlet. In such a case interested audience members would have to either hold fast to their memory of the reading; or rush up and write out their names on some little tearsheet; so as to receive the paper (when completed) a month or two in the future.

The panel discussions seemed more animated, perhaps because the participants felt less constrained by their data and more at ease with their fellow panel members (many in-jokes). Some panelists and paper presenters also made a conscientious effort to tailor their presentation for an audience, for instance, summing up data, hitting just the highlights of results,

Continued on next page

Spermicide Study Cites Birth Defects

Women who become pregnant while using spermicides such as contraceptive foams, creams, and suppositories, may have an increased chance of bearing children with birth defects, according to a recent study published in the Journal of the American Medical Association.

The study, conducted by the Boston Collaborative Drug Surveillance Program, tested 4,772 women in a Seattle clinic. Among the 763 children born to those women who had used a spermicide near the time of conception, the incidence of certain major birth defects was more than twice the rate for children born to nonusers. The defects that turned up most often included Down's syndrome, limb deformities, malignant tumors, and penile abnormalities. The study also indicated a higher rate of late miscarriages among spermicide users.

Although these findings raise questions about one of the few forms of birth control women have always considered quite safe, if not absolutely reliable or convenient, the researchers stressed that the actual rate of birth defects remains very low: 2.2 percent, compared to a 1 percent rate for nonusers. Further, researchers stated that the conclusions of the study are tentative and that the subject warrants further research. Said Dr. Richard N. Watkins, who took part in the study, "the absence of uniform defects among the babies raises doubts about the cause-and-effect relationship between the spermicides and the defects."

For now, cautioned Dr. Hershel Jick, chief author of the report, "It would be prudent to give up spermicides at least two months before getting pregnant and to stop using them immediately if you suspect you might already have conceived." □

Continued from previous page

and highlighting significance (e.g., ". . . Now what this means is that we are seeing here a . . . ").

Of course, at many if not the majority of professional meetings, paper reading is the coin of the realm of information exchange. But one wonders if other methods could not also be tried (e.g., biologists set up posters "advertising" their studies at their meetings; people spend their time browsing among the posters and can approach the researcher on the spot for further information).

The most notable party was probably the Brown University one, held at a nearby restaurant, to celebrate the 25th anniversary of Brown's Population Studies and Training Center. The party was attended by alumni and by Brown President Swearer. The alumni agreed that each year in the future, they would underwrite the costs of a party to be held at Brown for students of the Center.

Friday night saw a magnificent dance under glittery chandeliers, as demographers took to the floor to swing and sway to the music of two bands, one of which was the Demography Jazz Band with Leon F. Bouvier (trumpet) and J. Mayone Stycos (Piano). "In music as in demography, aggregate effects are most important," one listener observed afterward, and unquestionably the Demography Jazz Band's music will remain an indelible memory of PAA in 1981.

Early Saturday morning, the Third Annual Fun Run took place, organized by J. Greg Robinson of the Census Bureau. The run covered about 2½ miles through Rock Creek Park and featured an official green T-shirt, with "PAA 50 Years" on the front and "Running Reduces Down Time" on the back. The winners: for the men, Whitney Hicks, University of Missouri (13:48); for the women, Sue Janssen, University of Wisconsin (18:45).

No PAA meeting would be complete without some relation of its lighter side. Of the anecdotes told by eminent demographers during PAA, however, only the following one has survived in PRB's notes from the sessions. It concerns the sociologists Ogburn and Nimkoff, whose 1930s textbook became so ingrained in the field that their linked names became inseparable (as in, "for Monday read chapters 4 and 5 in Ogburn and Nimkoff").

One day Nimkoff was re-entering the U.S. through Customs after spending some time abroad. The Customs inspector searched Nimkoff's luggage carefully, then scrutinized the sociologist's passport for a long while.

Finally the inspector looked up. "Where's Ogburn?" he said sharply.

PAA holds its next annual meeting in San Diego in 1982.

Compiled by Mary Barberis, Leon F. Bouvier, Barbara Bower, Amalia Cabib, Cary Davis, Sergio Diaz-Briquets, Carl Haub, Arthur Haupt, Mary Kent, Ann Larson, Laura Lippman, Elaine Murphy, Lisa Olson, Jean van der Tak, and Robert P. Worrall

Annual Sterilizations Near Million Mark

During 1979 (the last year for which figures are available), approximately 435,000 men and 486,000 women in the U.S. obtained voluntary sterilization, according to figures recently released by the New York-based Association for Voluntary Sterilization.

This brings to an estimated 12 million the number of Americans who depend on sterilization (either female sterilization or vasectomy) as a permanent way to avoid unwanted pregnancies. A decade ago, voluntary sterilization was a virtually unused technique of birth control.

Worldwide, the AVS estimates that some 96 million couples presently employ voluntary sterilization.□

Census's Disability Study in Doubt

In its Feb. 1981 issue, INTERCOM reported on sources for obtaining data on the U.S. disabled population. The Social Security Administration, National Center for Health Statistics, and the Census Bureau collect various kinds of statistics in this area, but detailed statistics broken down by extent and cause of disability and geographical area are not easy to come by.

During preparations for the 1980 Census, a need was perceived for more comprehensive statistics on the disabled. To fill this need, the Census Bureau began formulating plans for a massive Postcensus Disability Study, the first of its kind, to be conducted in 1982. This study would survey some 100,000 U.S. households by disability characteristics and a variety of screening categories, and produce data down to the state level. The cost: a planned $11.5 million.

Many federal agencies were interested in obtaining these kinds of figures, but wanted the cost of the survey to be borne by the Census Bureau. The Carter Administration's Office of Management and Budget, however, was adamant that the cost be split among the interested agencies. Many of those agencies apparently could not contribute financially to the project, so the Disability Study was stalled, as of FY 1981.

For FY 1982, the Census Bureau has asked the OMB to consider reinstating the survey in the Bureau's own budget. But given the budget-cutting mood now prevailing in Washington, for now the survey must be considered in limbo. □

world food news

Land degradation and loss of fertile topsoil pose "a major threat to world food production," an FAO committee warned recently.

FAO's Committee on Agriculture, meeting in Rome recently, concluded that a vigorous international soil and water conservation campaign was needed if world agriculture is to maintain and increase its output.

In some countries, the Committee said, degradation is now so far advanced that the emphasis must be on reclamation rather than merely soil conservation. Large areas of mostly good agricultural land are being increasingly lost to nonagricultural land use, such as urbanization, mining, and industry.

In most developing countries, soil conservation work is still in its infant stages. Serious deterioration is the consequence of excessive and unskillful use of farm land for crop and animal production under rapid population growth pressures.

Thirty-five percent of the soils of Africa north of the equator, 60 percent of Near Eastern farmland, and 51 percent of India's agricultural soils are endangered by erosion, waterlogging, or salinity with the certainty of grave deterioration unless suitable soil conservation measures are undertaken quickly, according to findings of an FAO/UNDP project evaluating the degradation of the world's soils.

Up to 30 percent of usable soils in Africa, Latin America, Oceania, and South East Asia are currently farmed by shifting cultivators. Because of increasing population, the shifting cultivators extend the period of productive use of the land at the expense of the vital fertility-rebuilding fallow period. Soil conservation measures to improve fertility by recycling organic wastes and adding fertilizers are necessary to gradually replace fallow if strong land degradation is to be avoided, says an FAO study prepared for the meeting.

As first practical steps, the Committee urged governments to create the organizational infrastructure for soil conservation programs, to establish pilot demonstration to explain erosion control to rural populations, and to support such activities by appropriate legislation.

As a further step toward creating awareness and developing national soil conservation programs, the Committee on Agriculture supported FAO's initiative in preparing regional soil conservation projects for the four developing regions as a vehicle for exchange of experience among the participating countries and for joint training activities.

Previously, the World Food Conference of 1974 recommended the creation of a "World Soil Charter" to be drawn up by FAO. Such a charter, when it is finally prepared, would form the basis for international cooperation aimed at the most rational use of the world's land resources.

A draft charter submitted by FAO, recognizing "the paramount importance of soils for the survival and welfare of people," was discussed by the Committee and will be forwarded to the FAO Council. □

grants/contracts

• U.S. Dept. of Agriculture, Economics and Statistics Service, Economic Development Division: **Economic, Social, and Cultural Consequences of Coal and Oil Shale Development,** L.D. Bender, Regional Analysis Program Area, investigator. The objective of this project is to develop methods to estimate employment, population, incomes, government revenues and expenditures, and net fiscal impacts on local communities associated with rapid growth due to coal development in the Northern Great Plains. By using readily available secondary data series, it will develop statistical, descriptive, and computer estimating algorithms for each element that relates to community growth. It will assemble interrelated elements into an impact model and demonstrate the impact model for the Northern Great Plains and other communities. It will also develop policy implications from model results which are applicable to national, state, and local conditions. (Funded by the U.S. Dept. of Agriculture.)

• University of Texas, Medical Branch at Galveston, School of Medicine: **Use of Parity Survivorship Analysis in the Search for Occupational Carcinogens,** J.G. Dobbines and C.W. Eifler, Department of Preventive Medicine and Community Health, investigators. In view of the fact that many occupational carcinogens are also teratogens and exposure to these substances during pregnancy will result in increased rates of spontaneous abortion, this increase will in turn augment the time required to progress from one parity to the next. This project will utilize a simulation to determine if the increase in time between births is sufficiently large to be detected in view of the effects and variation of other variables such as lactation, postpartum amenorrhoea, fecundity, and contraceptive behavior. The power of analyzing this time estimate is compared to the power of analysis of more traditional measure of fetal loss. (No supporting organization reported.)

Vital Statistics Update

INTERCOM readers will notice a significant difference between the Vital Statistics that appear below and the statistics that have been appearing in preceding INTERCOM issues. The birth rate, for example, has seemingly dropped 0.3 births in just one month, a precipitous change considering that (in order to compensate for seasonal variations), the rates and numbers here are always presented for 12-month periods.

The reason for the apparent "change" is not the number of births (which is nearly the same as the number reported last month), but the denominator—the population of the United States. The 1980 Census found that the U.S. population was about 4.8 million higher than the estimates being used to calculate 1980 rates. So while the December 1980 rates were calculated on a population base of 222.3 million, the January 1981 rates appearing below are calculated on a population base of 228.3 million. Calculated on this new base, any statistic will have a rate some 2.6 percent lower than when figured on the old base.

The National Center for Health Statistics is now recomputing rates for 1980 that will be comparable with rates for 1981. But the columns for 1979 and 1978 rates that used to appear in INTERCOM's Vital Statistics will no longer appear in this space, as they are no longer comparable and cannot be recalculated.

Provisional U.S. Vital Statistics: January 1981

	12 months ending with January			
	Number		Rate	
Item	1981	1980	1981	1980
Live births	3,622,000	3,472,000	15.9	15.4
Deaths	2,008,000	1,911,000	8.8	8.5
Natural increase	1,614,000	1,561,000	7.1	6.9
Marriages	2,403,000	2,367,000	10.6	10.5
Divorces	1,191,000	1,169,000	5.3	5.2
Infant deaths	45,100	44,900	12.5	12.9
Population base (in millions)	...	...	227.3	224.8

Note. Rates for 1980 are based on revised population estimates.
Source. Monthly Vital Statistics Report (Vol. 30, No. 1) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

THE LAW AND POLITICS OF ABORTION, edited by Carl E. Schneider and Maris A. Vinovskis. Lexington Books, 1980. 268 pp. $15.95. ISBN 0-669-03386-3. LC 79-3134.

The LAW AND POLITICS OF ABORTION is a collection of essays discussing the legal arguments, precedents, voting patterns, and political posturing pertaining to the abortion debate in the U.S. The introduction provides a brief (and somewhat too selective) summary of the background of legalized abortion, liberally quoting certain passages of the landmark 1973 Supreme Court decision, *Roe* v. *Wade*, which upheld the right of women to decide whether or not to terminate a pregnancy. One author, Donald Regan, suggests other ways in which the decision could have been written, citing the "law of samaritanism," which would not require a pregnant woman to carry a fetus to term, and which would forbid the imposition of the burdens of pregnancy on women. Law Professor Patricia King, on the other hand, contends that *Roe* v. *Wade* could provide a sketchy base upon which to construct a definition of fetal status—if a fetus is viable, then the Court "is not justified in assuming that the mother's interest in her [own] life or health predominates." Another chapter presents a fictional court case showing how the same legal arguments now used to prohibit government funding of abortions for poor women could be turned around to prove the state's right to give financial aid for abortions, while denying funding for health care associated with childbirth. The role of the anti-abortion lobby is discussed, including an interesting analysis of how the personal religious beliefs of members of Congress influenced their voting behavior on the famous Hyde amendment prohibiting virtually all federally funded abortions for indigent women. Catholic Congresspersons were much more likely to vote in favor of the Hyde amendment, compared to those of other religious groups. —*Mary Barberis*

ECONOMICS OF THE FAMILY, edited by Stephen J. Bahr. Lexington: Lexington Books, 1980. 183 pp. $19.95. ISBN 0-669-03623-4. LC 79-47985.

This is an edited collection of papers given at the 8th Family Research Conference at Brigham Young University. At least half of the 10 articles presented reflect a belief in the importance of maintaining the two-parent family in which the husband is the sole wage earner. The introduction by G.E. Bivens explores in vague terms the currently nonmonetized contributions the family makes in human resource development by producing healthy, moral and productive children. A follow-up of the classic Lynds' study, "The Two-Income Family in Middletown, 1924-1978" by B.A. Chadwick and C.B. Chappell, investigates changes in wives' patterns of work and relates them to marital happiness and consumption patterns. Small sample size and a peculiar definition of working wives mars the results and, remarkably, the authors ignore that wives normally work because of perceived economic need. Other articles include solid studies of the economics of fertility and marriage; an argument that "unpaid" housewives receive a real economic reward which is lost at the time of divorce and proposes that alimony payments are appropriate; a report that negative income tax programs that do not discriminate against two-parent families actually increase marital disruption; and an article asserting that teenage pregnancy is not serious enough to warrant government invervention because of small and declining rates and numbers. This collection is a contribution because of its ideological approach rather than any particular methodology, results or theoretical conceptualization. —*Ann Larson*

THE SOVIET MARRIAGE MARKET: MATE SELECTION IN RUSSIA AND THE USSR, by Wesley Andrew Fisher. New York: Praeger, 1980. 299 pp. $20.00 ISBN 0-03-045346-1. LC 78-19737.

MARRIAGE AND ADOPTION IN CHINA, 1845-1945, by Arthur P. Wolf and Chieh-shan Huang. Stanford: Stanford University Press, 1980. 426 pp. $18.95. ISBN 0-8047-1027-9. LC 78-66182.

Mr. Fisher tackles the formidable job of interpreting Soviet demographic data with lively insights into the rituals of courtship and marriage. While the text and numerous tables deal with such subjects as ethnically mixed marriages and income/educational/social class intermarriage, it also deals with the intangible factor of emotional involvement (love). The book concludes that the Soviet population has adopted Marxist-Leninist ideology when it comes to marriage and follows a market structure despite official denial.

Wolf and Huang's study of a century of marriage and adoption trends gives the reader a view into the complexities of Chinese family life. It differentiates between major and minor unions and discusses therapeutic adoption and adoption of daughters-in-law. The authors provide case studies to illustrate various customs such as the lack of legal rights of an unwed daughter which extends *beyond* the grave. An appendix contains the history of three families to illustrate arguments made in the book. Both books are complete with tables.

—*Ed Beemer*

POVERTY, INEQUALITY, AND DEVELOPMENT, by Gary S. Fields. New York: Cambridge University Press, 1980. 281 pp. $29.50; $7.95 paper. ISBN 0-521-22572-8; 0-521-29852-0. LC 79-21017.

Absolute poverty—conventionally defined as living conditions below minimally set standards of nutrition or income—is a social problem of staggering dimensions in the modern world. In the developing countries approximately 1 billion people are estimated to exist in absolute poverty with hundreds of millions more living under only marginally better conditions. This book provides a concise but comprehensive overview of the determinants of inequality and how strategies of economic development effect the distribution of wealth and reviews the development experience of selected countries in terms of aggregate economic growth and their success in reducing extreme poverty. Fields' discussion of these issues makes eminently clear that the interrelationships between economic growth and a more equitable distribution of income are extremely tortuous; no single formula seems to be sufficient to define them. Development economists and all others concerned with alleviating the plight of the world's poor will find this study of significant interest. —*Sergio Diaz-Briquets*

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So You Want to Work in Population?

by Arthur Haupt

One small subset of world population is what could be called the "population world"; the thousands of people who work in the population field – as demographers, family planning specialists, lobbyists, technical information specialists, etc.

There are many sides to population; it is an interdisciplinary field involving different kinds of people, skills, and organizations all having a common denominator: an interest in human populations, their size, composition, growth, and changes; and a concern with the problems (on any level, from one individual to the entire planet) that these population dynamics can cause.

This article is the first in an INTERCOM series on positions and prospects in the population field. This issue will focus on professions in demography; future issues will cover other areas.

Becoming a Demographer

Demography is the study of the size and composition of populations and how they change, the causes and consequences of these changes, and the interaction of population trends with socioeconomic and cultural phenomena. Demographers use an arsenal of analytical techniques and statistical tools, and demography is a largely statistical science. But their work also requires powers of conceptualization (of the stare-out-the-window variety), and the vast, complex subject matter which demographers study is the living world of people.

How does one prepare to be a demographer? To begin with, many universities offer undergraduate courses in population and demography within their sociology, geography, and economics departments. Demography can be an integral part of an undergraduate's study, (e.g., as in the University of South Carolina's sociology major); though so far no U.S. school offers an undergraduate degree in demography.

As far as graduate studies go, some three dozen U.S. universities offer programs concentrating in demography. And there are a number of population study centers attached

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Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

Conference's Call for Action

A *Summary Report* of the Leadership Conference on Population, Resources, and Environment, a meeting attended by representatives of 60 population and environmental groups from all parts of the nation, has been published by the National Audubon Society. The Report summarizes the conception, purpose, proceedings, and final consensus of the Conference, which was held on Jan. 22-23, 1981, in Washington, D.C.

The final statement of the Conference called on the U.S. to develop a national population policy and a working capacity to anticipate national and international problems caused by population growth, resource depletion, and environmental degradation (see INTERCOM, February 1981). The Report outlines in detail the recommendations agreed upon at the Conference in the statements of U.S. Population Policy and U.S. Foresight Capability. The recommendations call for action by both government and the private sector, cooperating toward a common goal.

The Report also offers information and an update on citizen committees discussed at the close of the Conference. One committee, the Global Tomorrow Coalition for population, resources, and environment, has hired a director, been incorporated, and is at present raising funds to finance their activities. The committee was formed to help implement the recommendations outlined in the Global 2000 Report (see INTERCOM, August 1980), and is comprised of more than 35 environmental and population organizations along with other concerned citizens. The Coalition coordinates and assists the efforts of its members to actively influence decisions concerning global population, resource, and environmental issues. Working individually or together, members form an active lobby, drafting and monitoring legislation, formulating and distributing information to legislators, members, and the public, while fostering effective communication between population and environmental organizations. The Population Task Force, one of several formed within the Coalition, focuses on all U.S. domestic and international population matters relevant to the interests and purposes of the Coalition. □

For a free copy of the *Summary Report*, write PRB's Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036 or Frances Breed, Ref: PRB, National Audubon Society, 950 Third Ave., New York, N.Y. 10022. For a compendium containing the major papers presented at the Conference (including the *Summary Report*), write to Frances Breed at the NAS address and enclose $3.00.

Undercount Decision Overturned

The two major federal courts decisions that had threatened release of the 1980 Census last December have now been overturned by higher courts.

In Cincinnati on June 15, a federal appeals court (in a split 2-1 decision) struck down the decision made last December by Federal District Judge Horace W. Gilmore in the suit brought against the Census Bureau by the city of Detroit, which may now appeal. And in New York, another federal appeals court overturned the decision in a similar suit by the City of New York, and ordered a new trial. (See also INTERCOM January 1981.) □

Indians of the Americas: Refugees in Their Own Land

by Amalia Cabib

It is safe to say that no people more dramatically show the aftereffects of one culture being swamped by another than the Indians of the Americas. Almost five centuries after the landing of Columbus, standards of living among the indigenous population of the Hemisphere are generally lower than national norms. Most Indian cultures have already become extinct, and despite recent population increases, many tribal groups are facing the same ominous fate today.

Estimates on the Indian population are not easy to come by, since few countries conduct specific counts of their indigenous populations. Also, official criteria to define and identify those groups vary from country to country. However, for population counting purposes, the Inter-American Indian Institute headquartered in Mexico City has come up with the following general definition: "Indigenous peoples are those who still maintain specific social ties that give them an identity of their own as indigenous in the local context and are, in turn, recognized as such by the nonindigenous people of the countries, although they might have undergone substantial changes since their first contacts with the European colonizers."

Based on that definition, the Institute estimates that the indigenous population of the Americas steadily grew from about 11 million in 1940 to 13 million in 1962, reaching some 28.5 million in 1978. However, the apparent doubling of the numbers in the 16 years between 1962 and 1978 may be due not only to natural increase but also to changes in identification criteria that allow the inclusion of indigenous groups not counted as such before.

According to the Institute, which is a special body of the Organization of American States (OAS), these figures are conservative estimates based on offical data from each country, and only represent the "hard core" of the Indian population, without taking into account those who, for one reason or other, were missed by the various official censuses.

The 17 member countries of the Institute alone contain 27.9 million Indians, though these are distributed more heavily in some countries than others. Of these almost 28 million, the Institute reports that 1.5 million live in tropical areas, are tribally organized and economically self-sufficient; 21.2 million are peasants and/or part-time rural workers; and some 5.1 million live in urban centers. The participation in the economy of their countries is for most of them (94 percent) only marginal.

The Indian Population in the United States

In the United States, the American Indians survived war, disease, and conflicting federal policies, but their dwindling numbers in the last half of the 19th century originated the concept of "the Vanishing American." In 1917, however, the U.S. Commissioner of Indian Affairs reported for the first time an excess in the number of births over deaths, and seven years later, in 1924, the American Indians were granted the same rights as other U.S. citizens.

According to the U S. Bureau of the Census, which counts all Indians who identify themselves as such (while the Bureau of Indian Affairs only counts those who live on or near reservations), 792,730 people identified themselves as American Indians, Eskimos or Aleuts in the 1970 Census, a figure that grew to 1,418,195 in 1980. Today, the federal government provides free health care through the Indian Health Service to all Indians on and near reservations (most reservations are in the West, and 77 percent of all Indians live west of the Mississippi). For 1976-1978, the Indian Health Service reported 16.1 infant deaths per 1,000 live births, against 14.1 per 1,000 for the total population in 1977.

The fertility of Indian women has slowly declined since the early 1960s, and the number of children born to Indian women 15 to 44 years old during 1976-1978 in the 25 states where 90 percent of the total Indian population lives was 148.1 per 1,000, as compared to 155 in 1970.

Latin American Indians

Of the estimated 26.3 million Indians living in Latin America, it is estimated that almost 24 million are concentrated in five countries: Mexico, Guatemala, Ecuador, Peru, and Bolivia. Most of them live in rural areas where they have little or no access to health and educational services, and are engaged in subsistence farming and/or herding. The extreme poverty in which these groups live is described in the Five-Year Plan on Inter-American Indian Action presented by the Inter-American Indian Institute to the OAS. The Institute also shows concern over the nonparticipation of the indigenous groups in the decision making processes affecting them, although they make up the majority in Bolivia and Guatemala and a third of the population in Ecuador and Peru (see table). The study says that land-tenure problems force many Indians to seek wage employment in rural or urban areas, generating a high proportion of nonlanded rural workers and large rural-urban migratory movements leading to an extremely high rate of urban growth. Some 5.1 million are estimated to be living in the great urban areas of the Hemisphere. In Latin America, most of these urban Indians are found in marginal neighborhoods which lack the most basic sanitation services.

Continued on next page

PRB to Hold Federal Assistance Workshop

PRB will host a Workshop for Federal Assistance Programs in Washington Oct. 5 and 6, 1981. Designed for local-government officials, the workshop will instruct participants in federal allocation procedures and data requirements, eligibility criteria, and the handling of block grants. Conducting the workshop will be Leon Bouvier, Director of PRB's Demographic Research and Policy Analysis; Richard Engels, of the U.S. Census Bureau; Norfleet Rives, Jr., University of Delaware; and Danuta Emery, Department of Commerce.

The two-day workshop will be held at the Dupont Plaza Hotel. For further information, contact: Ed Beemer, Population Reference Bureau, 1337 Connecticut Ave. N.W., Washington, D.C. 20036. Phone: (202) 785-4664.

Approximate Distribution of Indigenous Population in 17 Countries of the Americas in 1978

Country	Estimates of indigenous population (in thousands)	Estimated % of national population
1. Countries with high percentage of indigenous peasant population		
Bolivia	3,526	59.2
Ecuador	2,564	33.9
Guatemala	3,739	59.7
Mexico	8,042	12.4
Peru	6,025	36.8
2. Countries with principally tribal indigenous population		
Brazil	243	0.2
Colombia	547	2.2
Panama	121	6.8
Paraguay	67	2.3
Venezuela	202	1.5
3. Countries with indigenous minorities		
Argentina	398	1.5
Chile	616	5.7
Costa Rica	10	0.6
El Salvador[a]	100	2.3
Honduras[a]	107	3.2
Nicaragua[a]	43	1.8
United States[b]	1,568	0.7
TOTAL	27,927	

Source: Inter-American Indian Institute, "La Poblacion Indigena en America en 1978," *America Indigena*, Vol. XXXIX, No. 2, 1979.
[a]Unreliable information
[b]The 1980 Census gave a total of 1,418,195, including American Indians, Eskimos and Aleuts.

Continued from previous page

The tribally organized Indians represent 1.5 percent of the total indigenous population of the Americas, reports the Institute, and they are settled in Brazil, Bolivia, Ecuador, Peru, Venezuela, and Paraguay. The tribes are isolated from each other and from the rest of the national community. Slash and burn agriculture, hunting, gathering, and fishing provide their basic subsistence. These tribal groups are in real danger of disappearing. The penetration of the Amazon frontier by settlers, for example, has led to an unprecedented migration movement, and, in Brazil, many of the settlers have illegally invaded lands that had been previously assigned to tribal groups. Some 17,000 Yanomami Indians living along the border between Brazil and Venezuela are threatened by highway and uranium-mining projects on the Brazilian side. A development project backed by the World Bank threatens to take over what is left of the Nambiquara Indian lands in Matto Grosso, a Brazilian state bordering Bolivia. In Paraguay, 700 Toba-Maskoy Indians were recently denied reoccupation of their territory and forcibly taken to a desolate location where they reportedly suffer from malnutrition and lack of water.

Meanwhile, the Brazilian government has promised to create the Yanomami Indian Park to guarantee the physical and cultural survival of the largest unassimilated Indian nation in the Americas, and a coalition of anthropologists, human rights and indigenous groups are actively trying to defend what remains of "the largest minority group in the world," as one of the organizations concerned with the survival of the world's tribal peoples has come to call them. □

Nurse Midwifery's U.S. Resurgence

The American College of Nurse Midwives recently premiered their half-hour film on midwifery in the United States, *Daughters of Time*, at the British Embassy in Washington, D.C.

The introduction of this documentary film comes at a time when this traditional profession is experiencing something of a renaissance. Today there are about 25 accredited programs in the field leading either to certificates or to Master's degrees combined with RNs at such universities as Johns Hopkins, Georgetown, Yale, Pennsylvania, and Columbia. There is also a government program within the U.S. Air Force.

Even with the growing interest, midwives today attend only 2 percent of all births in the U.S. In 1900 that figure was 98 percent. There is some opposition to their use. Many in the established medical profession, especially OB-Gyns, consider midwifery a risky setting for childbirth, particularly when performed in other than a hospital setting, such as in the home or in a birthing center.

The midwives, however, point out that they are able to provide more intensive and personal pre- and postnatal care, are trained to identify high-risk cases, spend far more time with patients in labor thus reducing the number of cesareans, and do so at less cost. The California Commission on Crime Control and Prevention has said that neurological abnormalities in infants caused by poor prenatal care, the use of anesthetics during delivery and the use of forceps may be a factor in future behavior. Supporters of midwifery feel that the personal care received from midwives can decrease the chances of a complicated birth and thereby decrease the number of pregnancy and birth related abnormalities.

During Congressional hearings on the subject in December 1980, Rep. Albert Gore, Jr. (D-Tenn.), who also attended the film premiere, said that patients should be able to exercise freedom of choice without intimidation or restraint of trade. These hearings also discussed the implications of a recent vote by the Washington Hospital Center obstetrical staff, which ended a pilot program allowing midwives to use the hospital facilities for their patients. The 15-month-old program was begun with the backing of several staff obstetricians, and was designed to make available a hospital setting for delivery, thereby reducing the necessity of home deliveries. The vote to revoke the privilege reflects the concern found within the medical community regarding the resurgence of this alternative method of childbirth. □

Further information on midwifery and the film *Daughters of Time* may be obtained from the American College of Nurse Midwives, 1012 14th St. N.W., Suite 801, Washington, D.C. 20005.

Highlights of Iran's Previously Unavailable Census

by Jamshid Momeni

Aside from its strategic importance, Iran is one of the largest countries in the Middle East. Its population is greater than the combined populations of Bahrain, Cyprus, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, United Arab Emirates, and South Yemen. Recently, 1976 census data, long delayed in release, were obtained. They showed the total population to be 33,708,744. Of these, 17,356,347 (51.5 percent) were males. 1981's population is estimated to have passed the 40 million mark.

The table shows the basic demographic characteristics and the pattern of demographic change in Iran during the 1956-1976 period.

Annual rate of growth. As the table below shows, the population of Iran grew by 6,124,219 between 1956 and 1966. It grew by 8,629,821 between 1966 and 1976—the largest numerical increase in one decade in the history of the country. The 1966 population represented an increase of 32.4 percent over the 1956 population; and the 1976 population represented an increase of 34.4 percent over the 1966 population. In terms of the annual rate of growth, the above figures translate into an annual rate of growth of 2.80 percent between 1956 and 1966, and 2.96 percent between 1966 and 1976. The actual annual rate of growth is estimated to be somewhere between 3.0 to 3.2 percent, however, as it is generally believed that the census figures have undercounted the actual population of Iran. At the rate of 3.0 percent annually, the population is expected to double every 23 years. This is one of the shortest national doubling times in the world.

Sex ratio. In all three censuses, the number of males have been reported to exceed the number of females in the country. The 1956 census showed about 104 males for every 100 females; in 1966, there were 107 males for every 100 females; and in 1976 there were 106 males for every 100 females. This means there were 335,184 more males than females in 1956; 884,407 in 1966; and, 1,003,950 in 1976. The reasons for the reported shortage of females are not quite known. However, it is partly attributed to census undercount of females and partly due to the preferential treatment of baby boys over baby girls in Iran, where son preference is emphasized. The excess males combined with the recently reinstituted practice of polygamy is expected to be a major source of social problems emanating from societal sex imbalance.

Age structure. Based on the census reports (see table) the population of Iran consistently grew younger between 1956 and 1976. As can be noted from the table, the proportion of the population age 0-19 grew from 49.7 percent in 1956 to 54.6 percent in 1966, and to 55.2 percent in 1976.

Continued on next page

Basic Demographic Characteristics and the Pattern of Demographic Change in Iran During the 1956-1976 Period

Demographic characteristic	1956	1966	1976
Population (total)	18,954,708	25,078,923	33,708,744
Urban population	5,953,563	9,794,246	15,854,680
Excess males over females	335,184	884,407	1,003,950
Number of households	3,985,510	5,029,320	6,709,068
Average household size	4.8	5.0	5.0
Percent urban population	31.4	39.1	47.0
Percent pop. age 0-15	42.2	46.1	44.4
Percent pop. age 0-19	49.7	54.6	55.2
Percent pop. age 20-64	46.3	41.8	41.3
Median age	20.2	16.9	17.4
Percent Moslem population	98.4	98.8	99.1
% Pop. age 15+ never married, M/F[a]	27.2/12.1	27.3/11.5	30.1/17.7
% Pop. age 15+ married, M/F[a]	68.5/71.4	69.4/73.8	67.8/71.6
Child-woman ratio[b]	867	915	801
Literacy rate, M/F[a]	22.4/8.0	39.2/17.4	58.6/35.0
Polygamy ratio[c]	1,011	1,010	1,013
Density (# of persons per km²)	11.5	15.2	20.4
% Women in labor force (non-agri.)	9.2	10.8	11.5
Total dependency ratio[d]	115.8	140.7	142.8
% Pop. age 10+ in construction	5.7	7.2	13.5

[a]Male/Female

[b]Child-woman ratio = [(population age 0-4/(female population age 15-44)] × 1,000.

[c]Polygamy rate (or P-Ratio) = [(number of women with spouse)/(number of men with spouse)] × 1000. A P-Ratio of 1,010, for example, indicates that for every 1,000 married men, 10 had two wives. For details see: "Polygamy in Iran," by J. Momeni, *Journal of Marriage and the Family* 37 (2): 453-457.

[d]Obtained by dividing the combined population of age 0-19 and 65 years and over by the population 20-64 years of age, and the result multiplied by 100.

Source. Iranian Census Reports.

Continued from preceding page

This indicates a high level of fertility, and a high dependency load which undoubtedly hampers economic development.

Dependency ratio. As the population grew younger, the dependency ratio became larger between 1956 and 1976. In 1976, for example, for every 100 people in the age group 20-64, there were 142.3 persons in the age groups 0-19 and 65 and over. In view of the fact that Iran is currently reported to have about 2.5 to 3.0 million of its working population unemployed, and an unknown, but large number, are underemployed, the real dependency ratio is even higher than 142.3.

Dependency ratio can be used as an indicator of a nation's economic development. The developed/industrialized nations of the world are characterized by a dependency ratio ranging between 75 and 95. Dependency ratios of the magnitude found in Iran and some other developing nations would hardly allow economic development, because the dependent population rapidly consumes whatever is produced by the small percentage of the economically producing population, leaving very little, if any, for saving and investment needed for economic development. A high dependency ratio is one factor of sociopolitical instability in the developing nations.

Urbanization. The most dramatic demographic change in Iran during the 1956-1976 period has been the rapid increase in the proportion of urban population. Based on a 1941 urban head count, there were only three cities with a population of 200,000 or more, and only four cities with a population of 100,000 to 199,999. Due to a high rate of rural-urban migration in recent years, especially during the 1966-1976 period when construction was booming in the cities, the urban population expanded rapidly. By 1956 there were eight cities with a population of 100,000 or more; in 1966 there were 14 cities with a population of 100,000 or more; and by 1976 the number had grown to 23 cities. In terms of percentages, the urban population grew from 31.4 percent in 1956 to 39.1 percent in 1966, and to 47.0 percent by 1976. In terms of annual rate of growth, urbanization proceeded with an annual rate of 4.9 percent between 1956 and 1976. Should this rate continue, the urban population is expected to double in only 14 years.

Fertility and nuptiality. The Iranian census questionnaires did not directly measure the level of fertility. However, the child-woman ratio is a rough measure of fertility. CWR declined from 915 in 1966 to 801 in 1976 suggesting a drop in the level of fertility. Other indicators of declining fertility, as may be noted from the table, are the changes in the pattern of nuptiality. For example, the percent of the female population age 15 and over, never married, increased from 11.5 percent in 1966 to 17.7 percent in 1976. In view of the fact that no reduction in the average household size was observed, and the population in fact grew younger, a more detailed analysis of the 1976 census data is needed before any definitive conclusion can be made regarding the change in the level of fertility. □

Jamshid Momeni is Associate Professor of Sociology/Demography at Howard University. His Demographer's Page "Women, Population, and Development in Islam" appeared in the February 1981 INTERCOM.

FAO Estimates World Has 436 Million Undernourished

The UN's Food and Agriculture Organization has revised and updated its estimates of the world's undernourished* population, as follows:

Area	Undernourished population 1974-1976	
	% of total	No. (millions)
Africa	23	72
Latin America	13	41
Far East	28	303
Near East	10	19
All developing countries	23	436

Source. FAO Statistical Analysis Service.

Centrally planned economies such as China are not included in the estimates, but the figures indicate the nutritional status of a large part of the world's population. They constitute an update on the estimates published in the widely quoted *Fourth World Food Survey*, which gave figures for 1972-1974.

*The FAO has defined undernourishment as daily food intake below 1.2 times the Basal Metabolic Rate. The BMR is the minimum amount of energy required to power human body maintenance. It does not include energy required for activity.

Greek Census: 9.7 Million Now

The first results from the Greek census, conducted on April 5, reveal that the population of Greece is now 9,707,000, compared to 8,769,000 on March 14, 1971, thus recording an increase of 938,000 or 10.7 percent compared to a 4.5 percent increase during the decade 1961-1971.

The large jump in the population percentage increase is attributed to the reduction in emigration and the increase in repatriation. Of the 10.7 percent increase during the decade, an estimated 7.3 percent was attributed to natural increase (surplus of births over deaths) and 3.4 percent to repatriation. The decrease in emigration and apparent increase in repatriation is viewed as a positive sign by the Greek government.

In the 1961-1971 period, 43 prefectures experienced population reduction while in the current period, only 14 reported a reduction in population. Epirus, Macedonia, the Thrace have in the past lost population through emigration, but experienced an increased number of people, probably due to repatriation, during the 1971-1981 reporting period.

The increase in population of Greater Athens during 1971-1981 was only 18.8 percent, compared to 37.1 percent during 1961-1971. The population of the prefecture of Thessaloniki during 1971-1981 increased by 20.9 percent compared to an increase of 30.5 percent during the previous decade.

Indian Census Prompts Reconsideration of Family Planning

Preliminary totals from the March 1, 1981 Indian census, have been tallied (with a speed that should make other countries' demographic centers look to their laurels). The new figures show India with a population of some 684 million on that date, a figure that indicates that India has been growing at an annual rate of 2.2 percent during the last decade (a higher rate than some had estimated).

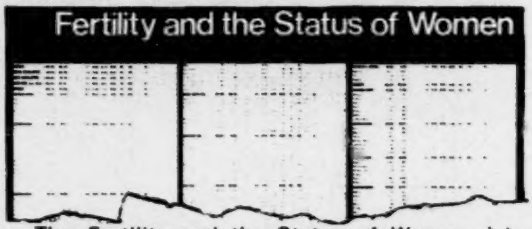
The new figures may force a reexamination of the existing family planning program and pave the way for fresh approaches to population problems. According to J.R.D. Tata, chairman of the Family Planning Foundation of India, a revitalized government program is badly needed if the present growth rate is to come down. Tata and other Indian leaders have been concerned by the lack of attention given to the problem of continued population growth in recent years. Birth control programs are only allocated 1 percent of the government budget in the current five-year plan.

A statement signed by Tata and 81 "concerned citizens" calls for the new Sixth Plan to "combine population control and family welfare with a development strategy directed towards the poor." The statement asserts that nearly one-half of the population lives in abject poverty, but that only "a little over a fifth of the 113 million eligible couples is currently effectively protected by any method of family planning." The statement urges the Government and the people "cooperatively to formulate and implement a humane, democratic and voluntary yet vigorous program of family planning with the political support requisite for ensuring a decisive decline in fertility within the present decade."

A statement signed by the same group said "the pertinent question is: are the coming generations going to tolerate living below the poverty level when the media–television and radio in particular–present the rosy picture of better living standards in the developed countries. In 20 years the people will rebel against the conditions in India."

In a recent speech to members of Parliament meeting to dicuss population and development, Prime Minister Indira Gandhi said that she was "shocked" by the rate of growth and called for a renewed commitment to voluntary family planning on the part of government, political parties, private industry, and organizations. Since her reelection in 1980, Mrs. Gandhi has been reluctant to address the issue of family planning, because of abuses in some state programs during her previous government, including involuntary sterilizations. The Prime Minister admitted that the previous family planning programs had been only "marginally successful," but she asked that leaders "get together and agree on [family planning] incentives and other measures to reach the people." □

New Data Sheet Shows Fertility and Women's Status Around the World



The *Fertility and the Status of Women* data sheet, a special publication of PRB's Compilation and Analysis of Population Data project, is being sent to PRB members this month.

Prepared by Ann Larson, this data sheet updates information on fertility, contraceptive use and marriage patterns published last year in PRB's *Family Planning and Marriage* data sheet. The 15 variables presented provide a wealth of information which give insight to the demographic, social and economic conditions of life for women in 169 countries.

Although information on all variables is not available for each country, every effort was made to collect data and estimates from the most recent censuses, the United Nations, World Bank, the U.S. Bureau of the Census and other agencies and institutions. Population and fertility data are consistant with PRB's 1981 *World Population Data Sheet.*

Some Data Sheet highlights:

Contraceptive users as a percent of all married women in the reproductive ages. Available for 62 countries, these figures were compiled from survey results and calculations by national family planning programs. Only a few African countries have family planning data; more plentiful information from Latin America and Asia reveal a wide range of contraceptive behavior between countries (2 percent in Nepal and Aghanistan and 6 percent in Ecuador to 77 percent in Hong Kong and 65 percent in Latin America). Not surprisingly, more developed countries have uniformly high (above 50 percent) rates.

Type of family planning method used by married women. This is the percent of women using either traditional or modern methods of sterilization (female or male). Some of the highest percentages of users of traditional methods are in Europe: Ireland, France, Czechoslovakia, Poland, Spain, and Yugoslavia. But it is modern methods on which women most commonly rely.

Average age at marriage for both men and women. The addition of marriage data on men (available for 133 countries) makes it possible to get a rough indication of the average difference in age between husbands and wives. Many African and South Asian countries have particularly wide gaps in men's and women's age at marriage.

A wide range of socioeconomic variables. Adult literacy rates and the percent of economically active persons aged 15-64 are given for males and females so the conditions for women can be seen in relation to men in the same country. Health related measures of per capita calorie supply as a percent of minimum requirements and the population per single nurse or midwife are also included.

The *Fertility and the Status of Women* data sheet was prepared with the support of the U.S. Agency for International Development. Single copies are free from PRB; for mail orders there is a $1.00 handling charge. (Bulk rates available on request.)

demographer's page

Davidson R. Gwatkin is a Senior Fellow at the Overseas Development Council in Washington, D.C. He thanks the United Nations Fund for Population Activities for the support through its grant GLO/78/P22 which made possible preparation of this report.

Mortality Change and Slowed Population Growth in Developing Countries

by Davidson R. Gwatkin

As is well known, recent years have seen a modest decline in developing country population growth rates. A principal reason for this is, as has frequently been noted, a fall in fertility.[1]

More recently, several commentators have also begun to call attention to reported changes in mortality trends, particularly to suggestions of slowing mortality declines in many parts of the Third World.[2] Population growth trends, of course, are determined as much by mortality as by fertility developments, and such reports raise the possibility that altered mortality trends could also have been involved in the observed deceleration of Third World population growth.

Is this simply a possibility, or is there more to it than that? Have the reductions in mortality progress thus far reported been significant enough to have exercised a notable impact on population growth?

As with so many other population issues, data inadequacies prevent anything more than a broadly suggestive response. But the suggestion that emerges from the available figures is of considerable interest. For to the extent that such standard sources of demographic information as the periodic assessments of the United Nations give a workably reasonable approximation of reality,[3] mortality's role would appear to have been far from negligible.

The attached table illustrates the point. Based on United Nations figures for less developed countries as a whole, it compares previously projected with subsequently estimated changes in crude birth, crude death, and population growth rates during the decade from 1960-1965 to 1970-1975; that is, between the early 1960s and the early 1970s.

The top line (line A) of each of the table's three sections presents projections made in 1968. As of that time, the period 1960-1965 had already passed into history, so that the figure given for it is based upon empirical estimates. But 1970-1975 still lay in the future, so that figure for that date was a projected one.

The bottom line (line B) of each section covers the same two periods of time, presenting for each period figures prepared in 1978. By this time, the period 1970-1975 as well as 1960-1965 had already ended, so that both of the two figures are empirically derived.

As indicated in the uppermost section of the table, covering the crude birth rate, in 1968 the United Nations foresaw a decline from 42.0 to 39.0 – a decline of 3.0 points – between 1960-1965 and 1970-1975. By 1978, when more data had become available, the 1960-1965 birth rate was found to have been somewhat lower than earlier believed – 40.0 rather than 42.0. Also, the 1960-1965 to 1970-1975 decline had been considerably more rapid than previously anticipated: 4.5 rather than 3.0 points.

The crude death rate, on the other hand, declined more slowly than expected. As of 1968, the United Nations thought it to be around 18.8 for the less developed regions as a whole during the period 1960-1965. Over the next 10 years, it was projected to decline by 4.5 points, to 14.3. But as of 1978, it appeared that a decline had been only 3.6 points – from 16.8 as then observed for 1960-1965 to 13.2 in 1970-1975. This was 0.9 points less of a decrease than projected in 1968.

As a result of these two influences working together, the Third World's population growth rate fell by 0.9 points between 1960-1965 and 1970-1975 instead of rising by the 1.5 points earlier foreseen. In 1960-1965 the population of the less developed regions was growing at a rate of 23.2 per 1,000 or 2.32 percent annually. But whereas the 1968 assessment had foreseen an acceleration to 24.7 per 1,000 or 2.47 percent annually in 1970-1975, the 1978 review found that the average annual rate of growth during that period was only 22.3 per 1,000 or 2.23 percent – 2.4 points or 0.24 percentage points less than earlier projected.

In looking at mortality's contribution to this population growth trend, it can be seen from the table's figures that:

- 37.5 percent of the divergence between the projected and realized population growth rates is attributable to the fact that, as noted, the crude death rate declined less rapidly than anticipated.[4] That is, of the 2.4-point divergence shown in column 4 of the table's bottom section, 0.9 points or 37.5 percent results from the less-than-anticipated mortality improvement shown in the table's middle section. Such a degree of influence is notably less than the 62.5 percent (1.5 points ÷ 2.4 points) of the difference attributable to fertility's faster-than-expected decline; but at the same time, it is far from trivial, being responsible for over one-third of the total.
- Had it not been for this slower-than-expected mortality decline, there would have been no reduction in developing country population growth between 1960-1965 and 1970-1975. That is, had the crude death rate declined by the 4.5 points earlier anticipated rather than the 3.6 points that it actually did during the period, the 1970-1975 crude death rate as observed in 1978 would have been 12.3 instead of the 13.2 shown in the table. Had this happened, and had fertility followed the trajectory it actually did, the 1970-1975 population growth rate as observed in 1978 would have

Projected and Reported Birth, Death, and Population Growth Rates in the Less Developed Countries: 1960-1965 and 1970-1975[a]

	(1) 1960/65	(2) 1970/75	(3) Change between 1960/65 & 1970/75 (Col. 2-Col. 1)	(4) Difference between reported and projected declines (Col./Line 3A-3B)
Crude birth rate				
A. As projected in 1968[b]	42.0	39.0	−3.0	+1.5 (i.e., reported fertility decline 1.5 points greater than projected)
B. As reported in 1978	40.0	35.5	−4.5	
Crude death rate				
A. As projected in 1968[b]	18.8	14.3	−4.5	−0.9 (i.e., reported mortality decline 0.9 points less than projected)
B. As reported in 1978	16.8	13.2	−3.6	
Population growth rate[c]				
A. As projected in 1968[b]	23.2	24.7	+1.5	+2.4 (i.e., reported population growth decline 2.4 points greater than projected)
B. As reported in 1978	23.2	22.3	−0.9	

[a]All figures are stated in terms of events (births, deaths, or additions) per 1,000 population. Thus the population growth rates given are 10 times the more familiar percentage figures—the population growth rate of 23.2 per 1,000 of the table, for example, being equal to 2.32 percent.

[b]1970-1975 figures are from the medium variant UN projection. 1970-1975 high and low variant crude birth and death rates were 40.9 and 36.8 (birth) and 13.5 and 14.4 (death). The actual 1960-1965 to 1970-1975 crude birth rate change, while markedly different from the medium variant projection, falls within the range bounded by the high and low variants. The actual crude death rate change lies well outside the limit, being 0.8 points less than the amount of progress envisioned under even the least optimistic variant.

[c]Population growth rates are approximations, calculated by subtracting the crude death rates of the table's middle section from the corresponding crude birth rates of the top section. The growth figures thus produced differ slightly in some cases from those appearing elsewhere in the source volumes, in part because of the greater rounding to which the figures given elsewhere were subjected, in part no doubt because of the more sophisticated methodology by which the other figures were produced. In no case is the difference large enough to influence—nor when taken together do the differences introduce a significant bias capable of influencing—the findings reported here.

Sources. United Nations, Dept. of Economic and Social Affairs, *World Population as Assessed in 1968* (ST/SOA/Series A/53), "Population Studies No. 53"; New York: United Nations, 1973, p. 151.

United Nations, Dept. of International Social and Economic Affairs, Population Division, *World Population Trends and Prospects by Country, 1950-2000: Summary Report of the 1978 Assessment* (ST/ESA;SER.R/33), 1979, p. 52.

been 23.2, or 2.32 percent, instead of the 22.3 or 2.23 percent shown in the table. This is no lower than the 1960-1965 population growth rate.

Such findings are obviously no more firm than the data on which they are based; and as is well known, the uncertainties inherent in global estimates of the sort employed here are many. So the findings can hardly be considered definitive.

Yet it is still of considerably more than passing interest that the figures from what is probably the most widely used set of population estimates point to mortality in addition to fertility as a significant cause of the unexpectedly slow rate of population growth between the early 1960s and the early 1970s. As indicated, fertility trends appear to have been responsible for a majority of the difference. But at the same time, according to the United Nations figures, over one-third resulted from unanticipated developments with respect to mortality; and had mortality declined as rapidly as earlier projected, population growth would not have slowed despite the faster-than-expected fall in fertility. □

References

1. See, for example, Robert S. McNamara, *Address to the Massachusetts Institute of Technology, Cambridge, Mass., 28 April 1977*, Washington, D.C.: The World Bank, 1977; W. Parker Mauldin, "Patterns of Fertility in Developing Countries, 1950-75," *Studies in Family Planning*, Vol. 9, No. 4, April 1978, pp. 75-84; Amy Ong Tsui and Donald J. Bogue, "Declining World Fertility: Trends, Causes, Implications, "*Population Bulletin*, Vol. 33, No. 4, 1978; and U.S. Bureau of the Census, *World Population 1977: Recent Demographic Estimates for the Countries and Regions of the World*, Washington, D.C.: U.S. Bureau of the Census, 1978.
2. Among such reports are Robert Cassen, "Population and Development: A Survey," *World Development*, Vol. 4, No. 10/11, 1976, p. 800; Leon Tabah, "World Population Trends, a Stocktaking," *Population and Development Review*, Vol. 6, No. 3, September 1980, p. 372; and Davidson R. Gwatkin, "Indications of Change in Developing Country Mor-

Continued on next page

Where Demographers Work

Continued from page 1

to universities where demographic scholars can conduct research and graduate students can work as fellows or research assistants. (See Table 1.)

Having obtained their degrees, how many people earn livings in the U.S. working as professionals in demography or a related population field? There is unfortunately no "census" extant of demographers or demographic positions available. Nonetheless, in a 1978 study published by the National Technical Information Service, J. Gregory Williams of the University of Akron compiled a tally of people with M.A.s or Ph.D.s who worked or did research in demography or closely related fields.

Using professional directories and other lists published by various social science organizations, Williams counted 3,373 people (82.8 percent male) working in the field, as of 1975. Some 2,279 of these were Ph.D.s.

Where Do Demographers Work?

Not enough data exist to determine the exact composition of the population labor market, but Williams gives some indications. Analyzing the directories of the different associations (Population Association of America, American Sociological Association, American Economic Association, etc.), Williams found that by and large, colleges and universities employed the majority, with the federal government the next biggest employer, followed by nonprofit organizations and state and local governments. For a breakdown of the 1975 membership of PAA *only*, see Table 2.

Research in demography, as in other social science disciplines, is largely dependent for funds on the federal government, in terms not only of positions available, but of funds for research and support of academic institutions and other organizations that employ demographers. With the Reagan administration vowing to wage war on government spending, people in population research, like many other groups, are waiting with interest and apprehension to see how the war will affect their field.

Thus far, signs are mixed: some parts of the government involved with population (such as foreign population assistance) may not be cut back. But for the present, a job freeze is in effect, so that the Bureau of the Census, which had been hiring some 125 to 150 statistical professionals a year (some 10 percent of whom were demographers) is now not hiring. (The Bureau as a whole employs about 100 demographers under the title "statistician [demography].") Various other parts of the U.S. government (including the Departments of Agriculture and Health and Human Services, and the National Center for Health Statistics) employ smaller numbers of demographers.

What about the academic world? The boom times of a decade ago are long gone, but demographic teaching positions reportedly remain available, particularly for the person who has demonstrated a high level of ability and performance. Competition for those positions is keener, and the positions themselves seem to carry ever increasing teaching loads. And because of the competition, graduate students are staying in graduate school longer, finishing their dissertations, and generally "building up their *vita*" before they enter the job market.

States and the Private Sector

One area where population awareness has increased fairly dramatically is in state and local governments. While one reason for this is probably a recognition of the intrinsic power and value of demographic analysis in planning and problem solving, another major reason is a plethora of federal and state legislation that is based in part on population estimates and projections. Revenue sharing is a major example; another is Environmental Protection Agency requests for consistent population projections for planning water and sewerage plants. Consequently, states experienced a boom in demographic work before they even realized it.

Nearly every state has offices that take care of that state's projections, estimates, and other demographic chores. A handful of states conduct their own population surveys. Responsibilities for these tasks have often been fragmented between different state agencies, but in some states they are now consolidated for efficiency's sake, and some states, including New York, Alaska, California, Minnesota and Colorado have established the position of State Demographer.

It should be noted that often these state offices employ a handful of professionals at most. But demography at the state and local government level is likely to continue increasing. For while some states, having caught the fever, seem bent on outdoing the federal government in budget cutting, there is general recognition of the importance of obtaining adequate population facts for the purpose of justifying programs. And for demographers, there is the solace that, as one population specialist put it, if "in the past you could make a living working at the Census Bureau, today you can make a living suing the Census Bureau."

The private (or almost private) sector offers other opportunities in population studies. In addition to the academic

Continued on next page

demographer's page

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tality Trends: The End of an Era?" *Population and Development Review*, Vol. 6, No. 4 December 1980, pp. 615-644. (The Gwatkin article is also available as Overseas Development Council Development Paper No. 30, available for $2.75 including postage and handling from the ODC, 1717 Massachusetts Ave., N.W., Washington, D.C. 20036)

3. The United Nations figures are used here because they are the only ones adequately complete to permit an exercise of the sort undertaken. Whether they are more or less reliable than the figures available from other standard sources is an issue that will be left for others to debate.
4. In the developed countries, the crude death rate moved precisely as projected between 1960-1965 and 1970-1975, while the crude birth rate declined over twice as much as expected. As a result, the United Nations figures for the world as a whole show a somewhat lesser contribution of mortality changes to the difference between projected and observed trends. For the world, the slower-than-projected decline in mortality was responsible for 21.8 percent and the faster-than-expected fertility decline for 78.2 percent of the difference between projected and achieved 1970-1975 population growth, as compared with 37.5 and 62.5 percent for the less developed regions, as presented above.

Table 1
U.S. and Canadian Universities with Graduate Schools Offering Programs of Study with a Concentration in Demography
(not an all-inclusive list)

United States

Bowling Green State University, Bowling Green, Ohio
Brown University, Providence, R.I.[a]
California, University of, Berkeley, Ca.[a,b]
Chicago, University of, Chicago, Ill.[a]
Columbia University, New York, N.Y.[a]
Cornell University, Ithaca, N.Y.
Duke University, Durham, N.C.[a]
East-West Population Institute, East-West Center, Honolulu, Hi.
Emory University, Atlanta, Ga.
Florida State University, Tallahassee, Fla.
Fordham University, Bronx, N.Y.
Georgetown University, Washington, D.C. [a,b]
Georgia, University of, Athens, Ga.
Harvard University, Cambridge, Mass.[a]
Howard University, Washington, D.C.[a]
Johns Hopkins University, Baltimore, Md.[a]
Kansas State University, Manhattan, Kan.
Kentucky, University of, Lexington, Ky.
Louisiana State University, Baton Rouge, La.
Maryland, University of, College Park, Md.
Massachusetts, University of, Amherst, Mass.
Michigan University of, Ann Arbor, Mich.[a]
Michigan State University, East Lansing, Mich.[a]
Minnesota, University of, Minneapolis, Minn.
Missouri, University of, Columbia, Mo.
New York, State University of, Buffalo, N.Y.
North Carolina, University of, Chapel Hill, N.C.
Ohio State University, Columbus, Ohio
Pennsylvania, University of, Philadelphia, Pa.[a]
Pennsylvania State University, University Park, Pa.
Princeton University, Princeton, N.J.[a]
South Carolina, University of, Columbia, S.C.[a]
Southern California, University of, Los Angeles, Ca.
Stanford University, Standford, Ca.
Texas, University of Austin, Tex.[a]
Utah State University
Washington, University of, Seattle, Wash.[a]
Wisconsin, University of Madison, Wis.[a]

Canada

Alberta, University of, Edmonton, Alb.
British Columbia, University of, Vancouver, B.C.
Manitoba, University of, Winnipeg, Man.
Montreal, University of, Montreal, Que.[b]
Toronto, University of, Toronto, Ont.
Western Ontario, University of, London[b]

Note. Additions and corrections to this list are welcome. Unless otherwise noted, school offers Ph.D. in particular departments (e.g., sociology, economics) with a specialization in demography.

[a]School has population center, or laboratory, or interdisciplinary center offering courses in demography.
[b]School offers M.A. and/or Ph.D. in demography.

Continued from preceding page

world, there are a number of academically oriented institutes and "think tanks" (often dependent on the federal government) that support population research. A small handful of demographers also work in nonprofit organizations, including PRB.

There also exists a world of private, profit-making "data shops"—small companies specializing in demographic analyses of particular populations, and customized repackaging of Census Bureau data. This work is typically done on a contract basis for government, or for corporations.

Finally, a number of large corporations, including General Motors and AT&T, employ their own staff demographers. Corporations, of course, are always interested in "the demographics" of their markets, and although it will be a long time before every large company has its own demography division, executives with demographic expertise may become increasingly desirable. (A masters in business administration with a program in demography would be a natural, for example.)

Population studies have progressed a long way in just the last decade or two. The interaction between population trends and other events is now more widely recognized, and demographic skills in collecting data and analyzing those trends have sharpened. (It has been pointed out that the rapid development of the electronic computer has enabled demographers to study and order data on a scale almost unimaginable just 20 years ago.) Institutions in the field may prosper to a greater or lesser extent, and opportunities may vary; but overall, population studies should continue to expand. Population is ultimately a "growth industry" in more ways than one. □

Table 2
Employment Activity for Experienced Ph.D. Population Manpower Who Belong to the Population Association of America: 1975

Employment activity	*N*	%
College & university, teaching	603	56.4
College & university, administration	10	0.1
College & university, research & service	157	14.7
Local government, research & service	2	0.0
Local government, administration	4	0.0
State government, research & service	6	0.1
State government, administration	3	0.0
Federal government, research & service	59	5.5
Federal government, administration	27	2.5
Foreign government & international organization, research & service	1	0.0
Foreign government & international organization, administration	4	0.0
Nonprofit organization, research & service	34	3.2
Nonprofit organization, administration	29	2.7
Business & industry, research & service	8	0.1
Business & industry, administration	6	0.1
Retired	28	2.6
Unknown or none (including students)	88	8.2
Total	1,069	—[a]

[a]Percentages do not add to 100 because of rounding.
Source. J. Gregory Williams, *Population Manpower in the Social Sciences*, (PB-299 518) National Technical Information Service, 1978, (available from NTIS, Springfield, Va. 22161).

Neo Sampoon: Evaluating a Spermicide

by Kwan-Hwa Marnie Chen

In FY 1978, the U.S. Agency for International Development (AID) began a major spermicidal distribution program involving Neo Sampoon foaming tablets, a spermicide developed and marketed worldwide by Eisai Ltd. of Japan. Since that time, AID has obligated $3 million for the purchase of 45 million Neo Sampoon tablets, which have been shipped to 19 countries.

The largest recipient countries are Bangladesh, Ghana, and Egypt with over 5 million tablets each, followed by Thailand, Sri Lanka, and Brazil with more than 1 million tablets each. The remaining recipient countries are: Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Jamaica, Korea, Mexico, Morocco, Nigeria, Panama, Peru, and Tunisia. The AID-supplied Neo Sampoon tablets are used in subsidized Contraceptive Retail Sales (CRS) programs and Community Based contraceptive Distribution (CBD) programs.

In CBD and CRS programs, only nonclinical contraceptive methods, such as oral contraceptives, condoms, and spermicides, are distributed. Spermicides have the potential to become the contraceptive of choice for lactating mothers, women with infrequent coitus, couples who dislike condoms, and women who dislike, or experience side effects from, oral contraceptives. The projected importance of Neo Sampoon is seen from the fact that in developing countries the first of these four groups alone can represent about one-fifth of all married women of reproductive ages. There is little information about the people who buy Neo Sampoon through commercial retail outlets. Because spermicides are used only at intercourse and are easily available through commercial channels, they are especially popular with young, unmarried women in countries such as West Germany, where spermicides are vigorously promoted.

Neo Sampoon and other contraceptives

Various contraceptive methods are suited for use at different stages of reproductive life or for different life-styles. Sterilization, for example, may be used by couples who have achieved their desired family size, while the IUD is more suitable for spacing offspring. In any population, one finds women who prefer an occasional method of contraception, a local method, or who need a temporary backup to another method. To them, spermicides offer an attractive alterative. Used properly, many spermicides are safe and effective methods of birth control. In countries where safe abortion is accessible, the combination of spermicides with first trimester abortion presents less risk to the user than IUD or oral contraceptives.

Why was Neo Sampoon chosen from among the various vaginal spermicides to supplement oral contraceptives and condoms as the third method in AID supported nonclinical contraceptive distribution programs? In order to meet the AID purchase specifications, a vaginal contraceptive must contain surface-active spermicide, and the manufacturer must be willing to provide the product individually wrapped – a prerequisite for the CRS distributions. Several vaginal suppositories made in the U.S. met these specifications; however, most of them act through a melting action and melt a few degrees below body temperature. This makes them highly vulnerable to the kind of storage conditions common in docks, warehouses, clinics, and households in less developed countries. Among the few remaining vaginal spermicides none seem to surpass Neo Sampoon tablet in product safety and effectiveness.

The spermicidal ingredient in Neo Sampoon tablets in Menfegol (TS-88), which is a non-ionic surface active agent. Since 1969 Menfegol has been marketed at a dose level of 60 milligrams in Neo Sampoon tablets. Assuming an average weight woman as 50-60 kilograms, the maximum exposure per use would be approximately 1 mg/kg. Drug safety studies conducted by Eisai to evaluate toxicity in laboratory animals conclude that Menfegol is safe as a vaginal contraceptive, and is also safe in the event of accidental oral ingestion.

Neo Sampoon's Effectiveness

The effectiveness of a contraceptive is inversely expressed as pregnancies per 100 women-years of use. The measure is commonly called the Pearl Index. For Neo Sampoon tablets, the Pearl Index reported in 10 clinical studies involving four countries are:

Japan:	2.3, 2.8, 3.2, 4.4, 6.8
The Philippines:	6.7, 7.8, 7.9
Bangladesh:	6.8
Sweden and Holland:	20.2

The three Asian countries display respectably low Pearl Indexes ranging from 2.3 to 7.9. These compare favorably with other barrier contraceptive methods used by U.S. women. The Swedish and Dutch failure rate of 20.2 is relatively high compared to the Asian countries. The reasons for this are unknown. However, since the chance of pregnancy of a sexually active noncontracepting woman is around 90 per 100 woman-years of exposure, a pregnancy rate of 20 still is an improvement.

Although the failure rates from the three Asian countries look quite good, they should be interpreted with caution. The subjects in some of these studies were selected for high motivation, good education, or prior experience with coital related contraceptive methods. Thus these pregnancy rates should be viewed as expressing the maximum effectiveness of Neo Sampoon.

The clinical studies have consistently shown that no serious side effects are associated with the use of Neo Sampoon tablets. The most common minor side effects associated with Neo Sampoon are an increase of vaginal discharge, and a subjective sensation of warmth in the vagina, which signals the start of dissolution of the tablet. However, data suggest that the users become accustomed to the side effect of Neo Sampoon, and that the frequency of complaints declines with use.

The warm feeling associated with Neo Sampoon is considered by some women to be uncomfortable, but by other women to be pleasurable. Because the acceptability of a contraceptive technique may depend upon cultural perspective, some understanding of the cultural perception on those frequently reported side effects would be desirable prior to mass marketing or community distribution of Neo Sampoon. □

Kwan-Hwa Marnie Chen is a social science analyst in the Office of Population, U.S. Agency for International Development. All views and opinions expressed in this article are the author's and do not necessarily reflect those of AID.

Family Planning Attitudes Of India's Muslims

by M.E. Khan

Muslims are the largest minority group in India, constituting (as of the 1970 Census) about 11.2 percent of the population. This recent study conducted interviews with 330 Muslim couples selected from 19 Muslim-dominant localities in the city of Kanpur, India.

The interviews, concerning fertility, family size, and family planning, were conducted separately with the wife and husband, using a female and male interviewer, respectively.

Findings

On the average, every Muslim female in the couples interviewed had given birth to 4.8 children and had 3.9 living children; couples had thus experienced 0.8 child deaths.

The analysis of the data on additional desired children revealed that a majority (64-68 percent) of both male and female respondents did not want any additional children. However, the statement that an additional child is not desired does not predict the adoption of contraception. For example, only 40 percent of those who wanted no children were using some family planning method and another 7 percent intended to adopt contraception in the near future. The remaining 53 percent had no plan to do so.

The males considerd an average of 3.3 children and the females 3.7 children as ideal family size (IFS). A detailed analysis of their responses related to ideal family size indicated that their IFS did not seem to involve a great deal of commitment. In fact the IFS seems to be the lower limit of their choice rather than the upper limit.

A strong preference for male children was observed in all groups of Muslims. Female respondents showed a stronger preference for a son than the male respondents. More than 87 percent of the male and female respondents felt that a family with a few children is happier than a family with many children; though the male respondents considered three and the female respondents four children "as few."

An analysis of knowledge, attitude, and practice of family planning among the Muslims revealed that all male respondents and 88 percent of female respondents knew of at least one modern family planning method. The males mentioned 3.1 methods, on average, and the female 2.2 methods.

An analysis of perceived complications of these methods indicated that only 27.4 percent of male respondents and 11.3 percent of female respondents had no adverse comment on vasectomy. Of the females, 12.1 percent in case of tubectomy and only 1.2 percent in case of the IUD perceived no complication arising from the methods. The fear of adverse effects varied from simples diseases like weakness, bleeding, and fear to serious diseases like cancer, ulcer, and displacement of the IUD in the womb. Fear of impotence was also strongly held by a considerably large proportion (25 percent) of the male respondents. Several people (22 percent) expressed the fear that it might even cause death or permanent serious illness.

Results further revealed that 83 percent of males and 64 percent of females approved of family planning. Altogether, about 50 percent of the couples had ever used some family planning method and 35 percent were currently using one or other method. On an average, the percentage of couples approving and practicing family planning was less among the Muslims with hereditary occupation (i.e., occupation same as parent's). The most used method was condom (59.1 percent) followed by tubectomy (10.4 percent) and abstinence (13.9 percent). It is important to note that the finding contradicts the general belief that Muslims do not accept family planning.

As long as (a) child mortality remains high (or a belief persists that it is high), and (b) a belief persists that family planning methods are injurious to health, the chances for the success of the family planning programs are limited.

M.E. Khan is Senior Consultant at the Operations Research Group, New Delhi, and is heading the Second All-India Family Planning Survey. This article is excerpted from a summary of the findings also reported in M.E. Khan, *Family Planning Among Muslims in India* (New Delhi, 1979).

Heart Disease in Vasectomized Monkeys

A possible link between vasectomy and heart disease has come under study. Two researchers, Nancy Alexander and Thomas Clarkson, reported at a recent American Heart Association seminar that vasectomized male monkeys given high-cholesterol diets in their experiments had shown more extensive arteriosclerosis (thickening and hardening of the artery walls) than controls. (The possible mechanism suggested was that sperm manufactured in the testes might "leak" into the bloodstream of a vasectomized male, causing production of antibodies whose action in turn might injure the artery walls.)

Whether the monkey tests are applicable to humans is open to question. And a recent study in The Lancet by Alexander M. Walker and associates reported that among 4,830 vasectomized men studied, the incidence of nonfatal myocardial infarction (heart attack, in effect) was slightly lower than that of controls. □

Metropolitan Wyoming: As a result of the 1980 Census, Wyoming may forsake its frontier heritage to the extent of gaining an SMSA or two leaving Vermont as the only state without an SMSA to call its own. A county or group of counties becomes eligible to be dubbed a Standard Metropolitan Statistical Area (SMSA) when a city within their boundaries reaches the 50,000 inhabitants mark, which Cheyenne and Casper in Wyoming may have reached during the previous decade. This more-or-less automatic designation emanates from the National Bureau of Standards in Washington, although it is subject to modifications given certain political considerations. The primary benefit from this change in status is increased eligibility for federal aid. There are currently 284 SMSAs in the U.S.

grants/contracts

• Miami University (Ohio), School of Business Administration: **A New Approach to Household Fertility Decisions,** D.A. Seiver and D.J. Cymrot, Dept. of Economics, investigators. This project introduces into the economic theory of fertility the possibility that disagreements might arise between spouses regarding the desired level of fertility. Two questions are addressed: under what conditions are the husband and wife most likely to desire a different number of children, and then, when conflict does arise, how is it resolved? Two hypotheses are suggested in response to the first question: the probability of conflict increases as (a) the non-pecuniary (psychic) rewards of the wife's market work increases, and (b) the difference between the husband's and the wife's schooling increases, provided the husband's is greater than the wife's. With regard to the resolution of the conflict, it is hypothesized that the outcome of the fertility conflict depends in part on relative economic power, that is, as the disparity in economic power increases, the spouse with the greater resources will predominate. (Funded by the U.S. Dept. of HHS Public Health Service and NIH National Heart Lung and Blood Institute, FY 1980 $22,621.)

• University of Illinois, Chicago Circle Campus, School of Liberal Arts and Sciences: **Economics of Location of Production and Population,** G.S. Tolley, Department of Economics, investigator. A general framework is being developed under this project that permits the tools of economics to be applied to the conceptual analysis and empirical study of the location of production and population. The general framework is extended using substitution concepts from demand and production theory. Models tracing in detail the effects of exogenous changes on a single region in the context of a larger economy are developed. The effects of exogenous changes in a multi-region economy on individual regions are analyzed using a general equilibrium model. Theoretical modeling of regional adjustments to disequilibrium are undertaken to examine the special nature of locational fixities of capital and labor stocks. Refined econometric analysis of location of population and production activity are developed to more fully reflect the dynamics of change and simultaneous nature of the determination of employment and population. (Funded by the U.S. National Science Foundation, Directorate for Biological Behavioral and Social Sciences, Division of Social and Economic Sciences, FY 1981 $114,976.)

• University of Pennsylvania, School of Medicine: **Behavior and Physiology Factors in Infertility Therapy,** C. Garcia, investigator. The objective is to identify relationships of behavioral, social, psychological, and physiological factors associated with or influencing ovarian function in infertility. A double-blind comparison study of 150-200 patients receiving clomiphene therapy to induce ovulation or placebo therapy is proposed. Treatment responses will be assessed by careful monitoring of ovarian response plus measurements of behavioral, psychological, and social factors. The proposal to monitor clomiphene therapy may increase success in ovulation and conception responses and also reduce the time period of clomiphene treatment. Identification of behavioral or psychological factors associated with clomiphene therapy may enable better predictions of (a) which women are likely to ovulate without undergoing ovulation induction treatment, (b) which women are likely to respond to ovulation induction treatment, (c) which women are likely to have conception responses. (Funding from Dept. of HHS, National Inst. of Child Health and Human Development, FY 1981 $70,748.)

• Brookings Institution, Washington, D.C.: **U.S. Immigration Policies and Patterns—Foreign Policy Aspects,** M. Morris, investigator. This project is a study of the foreign policy aspects of U.S. immigration policies and practices. The researchers will (a) review the major international migration patterns and their implications for source and host countries; (b) focus on the principal sources of illegal immigration to the United States, examining the factors contributing to the flow, its implications for the sending countries, and the steps that might be taken to reduce the flow; and (c) assess the domestic feasibility of the strategies identified for dealing with the problem, including modifying current immigration law and initiating or expanding economic assistance programs to principal source countries. (Funded by U.S. Dept. of Labor, Employment and Training Administration)

• Research Triangle Institute, North Carolina: **Family Relationships and Well-Being in Older Years,** J.D. Griffith and W. Wadman, investigators. This study examines the role of the family in providing care, services, and financial and social-emotional support to members of its older generations. It will employ data from the Social Security Administration's Longitudinal Retirement History Study to determine how these helping and caring patterns are related to a variety of social and demographic factors, including: marital status; presence, number and location of adult children; survival of and responsibility for aging parents; labor force participation and retirement; and health and well-being. The study examines familial relationships within a framework that explicitly relates familial roles and relationships to involvement with institutions outside the family. (Funding from Dept. of HHS, National Inst. on Aging, FY 1981 $99,184.)

• Institute for the Advanced Study of Black Family Life and Culture, Oakland, Ca.: **Black Family Mental Health and Teenage Pregnancy,** W.W. Nobles and L.L. Goddard, investigators. This exploratory research is designed to study the cultural meaning, attitude, and response styles associated with the issue of sexuality and pregnancy among black teenagers, the social psychological networks in black families facing the issue of teenage pregnancy and the relationship between mental health support systems in the identified families and their consequences for the teenager and the growth and development of the offspring. Specifically, this research will determine the particular process by which the black teenager handles the issue of sexuality and childbirth and the coping strategies and response styles associated with teenage pregnancy in black families; and isolate and identify the variables associated with family mental health support systems which mediate the effects of teenage pregnancy and, given the cultural meaning of teenage pregnancy, what measurable effects adolescent pregnancy has on the teenager, the offspring, and the teenager's family. (Funding from Dept. of HHS, Alcohol Drug Abuse and Mental Health Admin. FY 1980 $214,414.)

• University of Maryland, Baltimore Professional Schools, School of Medicine: **Control of Estrogen Biosynthesis in Reproduction,** A.M. Brodie, Dept. of Pharmacology and Experimental Therapeutics, principal investigator. The aim of this project is to develop aromatase (estrogen synthetase) inhibitors as a new class of compounds that will specifically inhibit estrogen production in vivo. The terminal sequence in the biosynthesis of estrogens involves aromatization of androgen to estrogen. Since this reaction is unique to estrogen biosynthesis, compounds which interact with aromatase may provide a more specific approach and have better properties than those presently available for treating problems associated with reproductive function and for fertility regulation. Several steroidal compounds with little or no hormonal activity that inhibit in vitro conversion of androgens to estrogen via the aromatase enzyme have been discovered. This project plans to determine how specific these compounds are for suppressing estrogen, to what extent this occurs at the aromatase level, to what extent anti-LH properties contribute to effectiveness in vivo and whether other enzyme reactions may be inhibited. (Funded by the U.S. Dept. of HHS Public Health Service and NICHD, FY 1980 $57,058.)

world food news

The World Food Programme (WFP), which uses food to promote development projects, has increased its aid to the People's Republic of China. The WFP is jointly administered by the United Nations and the FAO.

China will receive $16.7 million in food aid from WFP in support of four projects aimed at increasing agricultural production on state farms and facilitating resettlement of refugees from Indochina.

The projects concern farms in Guangxi Zhuang Autonomous Region and in the provinces of Fujian, Guangdong, and Yunnan. The projects were appraised by a mission sent by WFP to China earlier this year.

WFP will send wheat and vegetable oil for 18,800 workers on a food-for-work basis for three years. However, as the projects are in the rice eating areas, the Chinese government will substitute wheat with locally produced rice. WFP aid represents from 36 to 40 percent of the total cost of the projects.

In the Liujian county of Guangxi Zhuang Autonomous Region, the work includes reclamation of waste land to grow sugar cane and tea, the construction of new canals, and the improvement of existing canals.

A total of 5,280 workers will be employed on the project. WFP will provide $4.7 million in food aid, which represents 38 percent of the total cost of the project. The anticipated increase in farm revenue is in excess of $5 million per year and will go toward improving the living conditions of the farm population, including the refugees who now constitute 20 percent of the total farm population of 11,000.

The second project is in Fuqing county in the Fujian province for tidal land reclamation. WFP aid is worth $4 million and accounts for 36 percent of the total cost of the project. The project involves construction of a 7-kilometer dike, reclamation of 333 hectares of land for growing paddy, 533 hectares for the production of salt, and 55 kilometers of canals, and 18 kilometers of roads and associated works.

This project will employ 4,500 workers for three years. The resulting increase in production and income, annually amounting to $1.1 million, will have the same effect as the previous project besides helping to feed the refugees, who at present represent half of the total farm population.

The third project, also for tidal land reclamation, in Doumen county in Guangdong province, will receive $4.4 million in WFP aid. A total of 5,021 daily workers will be engaged in the construction of dikes, drainage networks, roads, bridges, drinking water supply, housing, and the excavation of fish ponds. WFP aid accounts for 39 percent of the total cost of the project. The project, in turn, is expected to increase annual income by over $1 million.

The fourth project, in Binchuan county in Yunnan province, is for the construction of reservoirs and wells and for reclamation and leveling of wasteland. WFP is providing $3.6 million in aid, which is 40 percent of the total cost of the project. An average of 4,000 daily workers will build or repair three water reservoirs, construct one big and one small fish pond, dig wells, reclaim and level 103 hectares of land, and terrace a further 122 hectares.

The resulting rise in agricultural production will increase the farm's income by $1.4 million annually and will provide employment and facilities to the farm population which includes refugees, who now number about half of the total population of 10,000 in the project area.

Last year, WFP provided China with about $6 million in food-for-work assistance under quick-action procedures to three small projects, approved under the authority of the Executive Director of WFP, plus an almost equivalent amount in emergency assistance to help in the settlement and meet part of the food needs of the refugees. The three projects involve similar activities aimed at augmenting the capacity of the farms to absorb refugees from Indochina. □

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

New Third Edition of 'Social Indicators' Published

Social Indicators III, a compendium of statistical information on the quality of life in the U.S., has now been published. Containing a plethora of social statistics, with many charts and graphs, this book is probably the Census Bureau's most free-wheeling venture in describing the social characteristics of the U.S. population. (The previous issue was published in 1976.) In its pages, one can find out everything from age-specific rates of criminal victimization (highest among persons aged 12-24, lowest among the aged, surprisingly) to total volume of pollutants (which has declined about 5 percent between 1970-1972 to 1975-1977) to television viewing time (4 hours 20 minutes per day among children in 1979).

Cost: $17.00; stock no. 003-024-02683-0; order from Superintendent of Documents, GPO, Washington, D.C. 20402.

Vital Statistics Update

Due to the unusually large difference between the 1980 Census enumeration and the previously estimated population for that year, vital rates for 1980 have been recomputed by NCHS to permit a valid comparison with the 181 rates. (The 1980 Census enumeration was about 4.8 million higher than the estimated population for April 1, 1980.)

Because of the higher denominator (the U.S. population), the latest rates for the whole population tend to be 2.0 to 2.5 percent lower than rates published in this space earlier this year.

Provisional U.S. Vital Statistics: February 1981

	12 months ending with January			
	Number		Rate	
Item	1981	1980	1981	1980
Live births	3,638,000	3,491,000	16.0	15.5
Deaths	2,011,000	1,928,000	8.8	8.6
Natural increase	1,627,000	1,563,000	7.2	6.9
Marriages	2,399,000	2,386,000	10.5	10.6
Divorces	1,182,000	1,174,000	5.2	5.2
Infant deaths	44,900	45,200	12.3	12.9
Population base (in millions)	...	...	227.6	225.1

Note. Rates for 1980 are based on revised population estimates.
Source. Monthly Vital Statistics Report (Vol. 30, No. 2) from the National Center for Health Statistics (NCHS).

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

SOVIET POPULATION POLICY: Conflicts and Constraints. Helen Desfosses, ed. New York: Pergamon Press, 1981. 210 pp. $24.50. ISBN 0-08-025976-6. LC 80-19951.

Soviet population policy has received increasing attention in recent years and this new volume of readings gives many valuable insights in its overview of the subject. The book contains articles by Murray Feshbach, David Heer, Jeff Chinn, Alfred Di Maio, Jr., and the editor on topics such as Soviet censuses, problems of aging, and the history of Soviet population thinking. The book points out that concern on the part of Soviet officials over very high birth rates in Moslem Republics in the country and low ones in Russian areas has been translated into an uneasy form of pronatalism. Soviet officials would like to raise Russian birth rates to be at least on par with non-Russians, but find it politically risky to say so—any attempt to raise the rate of childbearing would remove needed women from active participation in the labor force. Despite the lack of family planning services and the unreliability of whatever contraceptives are available, Soviet women still manage low birth rates, very often via the "comfortably familiar abortion tradition," as Desfosses puts it. It appears that there will be no easy solutions to the complex problems created by Soviet population trends. —*Carl Haub*

COMPARATIVE STUDY ON MIGRATION, URBANIZATION AND DEVELOPMENT IN THE ESCAP REGION. COUNTRY SERIES I; II: Migration, Urbanization and Development in Sri Lanka; Korea. SURVEY MANUAL I-VII. New York: United Nations, 1980. ST/ESCAP/94.

Increasing awareness of the many problems generated by uneven patterns of population distribution and rapid urban growth has resulted in the proliferation of migration studies in developing countries, many of which have been sponsored by national governments and international agencies. The most ambitious of these so far is the one currently underway with the support of the United Nation's Economic and Social Commission for Asia and the Pacific. The Comparative Study of Migration, Urbanization and Development in the ESCAP Region, in which seven countries are now participating, has been organized around three phases. In the first one, national macro-analyses of migration patterns are being conducted. Results from Sri Lanka and Korea have already been published and reports on Indonesia, Malaysia, the Philippines, Thailand, and South Pacific countries are expected by the end of the year. The second phase will investigate the determinants and consequences of migration, principally through data sets collected through large-scale national surveys akin to the World Fertility Surveys. The last phase will integrate the results of the empirical analyses and make recommendations to assist governments in formulating and implementing population distribution policies as part of their development plans. The comprehensiveness of this project, both methodologically and substantively—and of the many publications it will generate—will make it of great interest to researchers and planners in other countries committed to the study of the interrelationships of migration and development. Manuals on the sample design and organization, on survey questionnaires, and for the personnel conducting the surveys are included in the series. —*Sergio Diaz-Briquets*

CHILDHOOD SEXUAL LEARNING: The Unwritten Curriculum, edited by Elizabeth J. Roberts. Cambridge, Mass.: Ballinger, 1980. 287 pp. $22.50. ISBN 0-88410-374-9. LC 79-27545.

This book will do much to dispel the idea that sexual learning refers to learning the "facts of life" and the methods of contraception. Sexual learning encompasses attitudes and values about gender roles, affection and intimacy, family roles and social lifestyles, body image, erotic experiences, and reproduction. Sexual learning, as the authors point out, begins at birth and continues throughout one's life. The chapters in CHILDHOOD SEXUAL LEARNING are organized to provide the reader first with a definition of sexuality and sexual learning and an overview of social learning theory. These chapters are followed by reviews of the various environments that influence sexual learning—the home, the parents' workplace, school, communication with peers, television, religion, and social services. The final chapter looks at the assumptions about sexuality and their effect on our institutions and social policies. Recommendations for future policy planning are made. —*Patricia Cancellier*

OVERSHOOT: The Ecological Basis of Revolutionary Change, by William R. Catton, Jr. Champaign: University of Illinois Press, 1980. 297 pp. $16.50. ISBN 0-252-00818-9. LC 80-13443.

Overshoot is a highly readable journey along the trail of ecological use, misuse, and overuse. Catton traces humankind's technological advance to an "age of exuberance" and on to the "post-exuberant" age. As our exuberance was punctuated with industrial progress and ecological ignorance, so our post-exuberance is highlighted by searches for alternate energy sources and ecological awareness. The author examines such terms as "overshoot" temporarily exceeding the carrying capacity of the habitat, (which Catton asserts we have already done); and "ghost acreage:" the additional farmland needed to meet future needs. As *Homo sapiens* evolves into *"Homo colossus"*—the human being equipped with tools that enlarge his and her resource demands and environmental impact—Catton demonstrates the need for curbing those demands. Through the reader may have heard this all before, the presentation is imaginative and well written and therefore more effective than like-minded texts. With a glossary of Catton's imaginative terms, and a forward by Stewart Udall.—*Ed Beemer*

BLACK MIGRATION IN AMERICA: A Social Demographic History, by Daniel M. Johnson and Rex R. Campbell. Durham: Duke University Press, 1981. 190 pp. $16.75; $8.95 paper. ISBN 0-8223-0442-2; 0-08223-0449. LC 80-16919.

The most salient characteristic of historical black migration to and within America is its involuntary nature. Using historical sources as well as U.S. Census and other demographic data, the authors present a comprehensive review of the migratory patterns of black Americans, from their uprooting from Central and West Africa in the fifteenth century, to the reversal of the long-term trend of black migration from the South in the 1970s. Each chapter describes a historical period for which the sources of data; volume, causes and consequences of migration; and the characteristics and destinations of migrants are discussed using the perspective and tools of demography. Fascinating accounts of slave trade migration form the basis for examining later migration patterns. Throughout the book, historical events and social changes are interwoven with their demographic impacts, making the book a thoroughly enjoyable as well as demographically important account of the movements of black Americans. Tables and maps included. —*Laura Lippman*

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Mexican Media Focus on the Environment

Mexico City Shows Global 2000 Stresses

by Robert W. Fox

During the last decade, Mexico City nearly doubled in population. With a present population of some 15 million and perhaps 1,900 persons arriving each day to settle, it continues to grow at a rapid pace – faster than Mexico as a whole (3 to 5 percent annually versus the country's estimated 2.5 percent), and is beginning to enmesh medium and large cities just outside its immediate orbit, including Toluca, Cuernavaca, and Texcoco. Projections of a Mexico City metropolitan region containing 25 to 30 million population or more by 2000 no longer appear farfetched.

One of the phenomena of massive world population growth in the late 20th century is the "urban explosion." The UN projects at least 45 cities in the less developed countries will have populations of over 5 million by the end of the century; 11 could have populations of over 15 million. And Mexico City, currently the third largest city (after New York and Tokyo), will most likely be the most populous urban area in the world.

What are the effects as such a large and rapidly growing population impacts on the ecological and environmental systems? And how do less developed countries respond to such challenges? Mexico City – on the leading edge of rapid population growth and labor force expansion – provides a clearcut example.

7.8 million tons of pollutants

According to a study made for the ruling PRI political party's Institute of Political and Social Studies, "the contamination of the air, earth, and water in the Valley of Mexico has reached the limits declared as maximum by the World Health Organization, provoking highly dangerous situations for the 15 million inhabitants."

Five centuries ago, when Mexico City (Tenochtitlan) was an Aztec city of 100,000 surrounded by lakes and an elaborate water system, its cleanliness was remarked on by the Spanish conquerors. Now Mexico City sits on a dusty dry

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	U.S.	All other countries
Individual	$ 25	$ 32.50
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Educator—primary/secondary	10	13.00
Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

Indochinese Refugees on Increase

There are presently some 10 to 12 million refugees in the world, people who have been forced to flee their country of origin and who are now living in the limbo of internment camps in some other country, according to the office of the UN High Commissioner for Refugees. The total of world refugees has hovered at about this level for several years, though individual regional totals have swung up and down.

Pakistan holds the largest number: over 2 million refugees who have fled the fighting in Afghanistan. Somalia holds 1.3 million Ethiopian refugees while the Sudan has 510,000 (400,000 from Ethiopia, the rest from Uganda, Chad, and Zaire).

Africa, in fact, has about half the refugees in the world—4 to 6 million. Zaire contains 350,000 (215,000 from Angola, 100,000 from Uganda, and others from Burundi, Rwanda, and Zambia); Tanzania contains 156,000 (principally from Burundi), and Cameroon has 110,000 from Chad. Uganda contains 113,000 (80,000 from Rwanda, the rest from Zaire, and Ethiopia).

In Asia, the stream of Indochinese refugees recently increased. In May, 14,792 "boat people" arrived in countries of first asylum, the highest monthly figure in two years. (Two years ago, before Vietnam agreed to stop expelling Vietnamese of Chinese origin, boat people were arriving at a rate of 15,000 to 20,000 per week.) Some 166,656 Indochinese are now in Asian resettlement camps, plus 135,562 Cambodians in Thailand (figures as of the end of May 1981).

In the Western Hemisphere, meanwhile, some 180,000 to 200,000 refugees created by civil unrest in El Salvador are now in other Central American countries.

Finally, as a footnote: as of the end of June, some 976 Cuban refugees remain to be resettled, out of the 125,000 Cuban boat people who came to the US in the "freedom flotilla" migration in Spring 1980. □

Population Handbook Now in Dutch

"Over Bevolking" means "about people" in Dutch—and also "overpopulation." This play on words is the title of the new, Dutch edition of PRB's *Population Handbook*, now being distributed to all Dutch secondary schools.

Just published by the Netherlands Interuniversity Demographic Institute, *Over Bevolking* is a 96-page adaptation of the international edition of the *Handbook*, incorporating Netherlands material and new illustrations. In simple, understandable Dutch it provides a ready reference of demographic terms such as *Geboortencijfer* (bith rate), *Sterftecijfer* (death rate) etc., and a quick cram course in the basic concepts and statistics of demography.

With this publication, there are seven different editions of the *Population Handbook* available; the original *Handbook*, in English; an internationally oriented *Handbook*, also in English; and editions in Arabic, French, Spanish, Bahasa Indonesian, and now Dutch.

Over Bevolking is available from the Netherlands Interuniversity Demographic Institute, Prinses Beatrixlaan 428, Voorburg, the Netherlands. The other editions of the Handbook continue to be available from PRB, and with the exception of the Arabic handbook (which is available free in limited quantities), these cost $3.00 per copy. □

Some Population Funding Escapes the Ax

Family Planning and President Reagan's Budget

by Peters D. Willson

At a time when Congress is weighing a legislative definition of "life" in order to outlaw abortion and is pursuing legislation which may eliminate the cornerstone of federal funding for family planning services for all Americans, every House and Senate committee which has acted on U.S. support for international population assistance this year has approved significant *increases* in it over the current budget. The Senate Foreign Relations Committee has voted for a $26 million increase over the current $190 million budget. The House Appropriations Subcommittee on Foreign Operations has OK'd a $50 million increase. And the House Foreign Affairs Committee has recommended an $83 million increase.

If all of Congress's different actions on family-planning-related matters appear somewhat contradictory, the explanation is only partially the peculiarities of Congress and the way it works. To a great extent, Congress is simply following the lead of the Reagan administration. The fact is, despite its unqualified and highly visible opposition to abortion rights, the Reagan administration's position on federal funding for family-planning-related programs – domestic services, population research, and international population assistance – is neither consistent among agencies of the government nor well-publicized. In each case, the administration's stand appears to be determined by larger policy concerns rather than any particular preoccupation with family planning.

When he sent to Congress his revised, fiscal 1982 budget request, President Reagan took three different tacks on federal support for family planning. He proposed the elimination of categorical grants for domestic family planning services, with the substitution of a preventive health block grant lumping together several different programs, including family planning, plus a 25 percent reduction in overall funding for them. He recommended a modest increase for population research under the National Institute of Child Health and Human Development but no continuation of the special line item authorization for this kind of research. Finally, he asked for a 33 percent *increase* for population assistance funds administered by the U.S. Agency for International Development – a jump from $190 million to $253.4 million.

Block grants are the linchpin in the President's strategy to reduce the role of the federal government in domestic affairs. They serve to cut federal funding for health and social services as well as turn over to the state governments the responsibility for ensuring their cost effective use. Categorical grants for family planning services, authorized under Title X of the Public Health Service Act since 1970, represent only one of several different categorical grant programs for health services which would be folded into block grants. Family planning would fare no better or worse than any other program. Included in the President's proposed block grant for preventive health services are family planning, rodent control, hypertension, fluoridation, tuberculosis control, and several other services.

All funds currently available for these separate programs would be combined in a single preventive health block and reduced by 25 percent to $265 million, at which level they would remain through fiscal 1985. (In comparison, $162 million is now appropriated just for Title X family planning services.) Each state would receive its share of the block grant, proportionate to the total amount it had received from all of the separate categorical programs in the past. Once it had the monies in hand, a state could choose to spend them according to its own priorities, and if those priorities did not include family planning, the federal government would have no say in the matter.

The irony of the President's proposal is that at a time when a major political complaint of his is waste of taxpayers' monies, the block grant proposal virtually eliminates any federal ability to ensure that future funds will be used effectively. This is especially important in the case of family planning under Title X, whose targeted funding, careful regulation, and extensive monitoring have resulted in uniform standards of service delivery, a five-fold increase in users of federally assisted services, the prevention of 5.4 million unintended pregnancies, and a consequent $2 savings in health and social service costs in the first year for every $1 of federal investment in family planning services.

Funding Population Research

Within the nation's research community, most attention has been given to the President's recommendations for enormous reductions in spending for social science research under the National Science Foundation. However, biomedical research under the National Institutes of Health would receive small increases if the President has his way, and population research, despite its inclusion of a small social science and behavioral research program, has been treated accordingly. The budget for the Center for Population Research continues to amount to about 35.7 percent of the overall budget for the National Institute of Child Health and Human Development under the fiscal 1982 Reagan request.

Compared to the fiscal 1981 funds finally approved by Congress this June under a new continuing resolution, the President's fiscal 1982 requests represent a 4.6 percent increase for NICHD, raising funding to $231.1 million, and a 5.2 percent increase for the Center for Population Research, raising it to $82.6 million. Within CPR's budget, reproductive sciences would continue to be the priority research area. Compared to fiscal 1980, the last full fiscal year under the Carter administration, the Reagan administration would spend 15.1 percent more in reproductive sciences ($52.6 million compared to $45.7 million), but there would be almost no significant additions to contraceptive development, evaluation, or social science and behavioral research.

Although it supports improved appropriations for population research, the Reagan administration wants to drop the special legislative authorization for this work which now exists in Title X. Along with this law's authorization of family planning service support, the legislative earmarking for population research also would disappear if the new administration were to have its way. Instead of the specific mandate of Title X for work in the "biomedical, contraceptive development, behavioral and program implementation fields related to family planning and population," the administration would base future population research funding, as was done before Title X's enactment in 1970, on the much broader existing authorization for NIH's health research.

Continued on next page

Unprotected by Title X, population research would have to depend on Title III of the Public Health Service Act which authorizes NIH programs simply to investigate the "causes, diagnosis, treatment, and prevention of disease."

A repeated message of the new administration's foreign policy spokespeople is that it would support bilateral foreign aid, which the United States can control and which would be targeted at problems threatening the stability of developing countries of strategic significance to the security of the United States. While serving health and economic development objectives, population assistance has always been justified first and foremost as a program intended to reduce the pressures of rapid population growth on the natural resources and economic well-being of developing nations.

This philosophy is continued by the Reagan administration. Although it falls far short of the 82 percent funding increase recommended by the Carter administration, the new President's budget for population assistance represents the single largest proportionate increase in any functional area of AID's activities. Consistent with the bilateral focus, the chief beneficiaries of the administration's request, if Congress were to approve it, would be the bilateral population assistance programs of the Asia and Latin America Bureaus, which would increase 73 percent and 40 percent respectively.

Congress is now moving more or less in the direction of the President's proposals. The House has used some of the principles of the President's block grant proposals for health programs; in some cases, establishing new block grants but in others, such as family planning, retaining the existing categorical grant programs. In the Senate, the preventive block grant has been modified only slightly in committee and is virtually assured of passage on the floor. While two of the three committees to act thus far on international funding requests have not gone as far as the President's budget, all have agreed with the need for an increase of some amount – a politically significant choice at a time when Congress is cutting billions of dollars from the total federal budget with almost no resistance. Action on appropriations for research has yet to occur.

The lesson thus far of the Reagan administration for family planning is that it is not its position on family planning per se which is the problem as much as its larger strategies and policies. Today, the battles over federal support for family planning are being fought in debates over "mega-issues" such as block grants, research priorities, and U.S. national security interests. □

Peters D. Willson is an international assistance analyst at the Alan Guttmacher Institute.

positions/professionals

Research Scientist, Battelle Human Affairs Research Centers, to develop and conduct research in African and Middle Eastern countries in connection with the Centers' Population and Development Policy Program. Individual will work with scientists and policymakers in developing countries to promote research and relate results to population and development policies. Qualifications: training and/or experience in population research; Ph.D. in economics, political science, anthropology, or sociology; fluency in French; training and field experience relevant to African countries; U.S. citizenship or resident visa; willingness to travel. *Salary:* commensurate with experience and background. *Contact:* Battelle Washington Operations, Attention: Ivan Carter, Battelle Institute, 2030 M St. NW, Washington, DC 20036.

Bingham honored: Rep. Jonathan B. Bingham (D-N.Y.) was selected Legislator of the Month by the Population Action Council in Washington, D.C. Bingham serves on the House Foreign Affairs Committee, where he is chairman of the Subcommittee on International Economic Policy and Trade. Bingham is a long-time champion of population assistance programs supported by the Agency for International Development and is a cosponsor of Rep. Richard L. Ottinger's U.S. population policy bill.

Population on TV: A comprehensive series of TV reports on world population issues will be broadcast this fall over the Cable News Network, which provides 24-hours-a-day news coverage to cable TV subscribers across the U.S. The series covers a dozen country population programs, including India, Singapore, and Egypt; and is based on dispatches from CNN's Barbara Y.E. Pyle, who is probably the only video journalist in the world whose beat is exclusively population.

The Environmental Fund, a Washington based educational foundation, has announced the appointment of Thomas F. McMahon as its new Executive Director. McMahon comes to the Fund from a series of assignments as director of various projects in the U.S., Latin America and Africa that dealt with media campaigns on population, agriculture and economic development. He was formerly Vice President of Institutional Development and Economic Affairs Service.

Spain has passed legislation allowing divorce after a 40-year ban. An estimated 500,000 Spaniards whose marriages are broken are expected to file for divorce when the law goes into effect sometime in July. Divorce was banned by Gen. Francisco Franco. The bill allows uncontested divorce suits settled within two years of filing for separation with delays of up to five years for contested suits. The Catholic hierarchy has launched a strong opposition movement to the bill, which has also caused a serious split within the centrist ruling party, the Union of the Democratic Center party. Party conservatives blasted the bill, expressing fears that further social liberalization would erode Catholic, conservative, middle-class support for Spain's democratic experiment.

Bulletins on microfilm: Those who find PRB's *Population Bulletins* weighty reading can obtain them instead on microfilm or microfiche. (A *Bulletin* on a 4 x 6 inch microfiche weighs just 5 grams.) *Bulletins* are available on microfilm from Xerox University Microfilms, 300 North Zeeb, Ann Arbor, Mich. 48106. Selected *Bulletins* are available on microfiche from ERIC Document Reproduction Service, P.O. Box 190, Arlington, Va. 22210.

UNFPA's 1981 Report

UN Lowers Its Projection of the World's Ultimate Population

The United Nations has lowered its estimate of the number of people the world will ultimately peak at, and now estimates that global population could stabilize at 10.5 billion in the year 2110.

This is the medium-variant projection contained in the newly published *State of World Population: 1981* from the UN Fund for Population Activities. (The report's low projection is 8.0 billion, reached 60 years from now; the high projection, 14.2 billion reached in 150 years.)

In the report, Rafael M. Salas, the Executive Director of UNFPA, describes the status of the world population situation, along with an analysis of future trends and prospects. The report's good news is that the rate of global population growth has decreased, and decreased at a rate faster than had been hoped. "When the UN assessed world population trends in 1973, an annual average growth rate of 1.95 percent was projected for 1975-1980. The 1978 assessment lowered the rate to 1.81 percent. The latest assessment, undertaken last year has further lowered the estimated growth rate to 1.73 percent per annum for the period 1975-1980.... Such a small revision of the growth rate might appear inconsequential but its significance lies in confirming the probably irreversible downward trend in global population growth."

The bad news is that the sheer numbers continue to increase, due to the built-in momentum of high rates of growth in the past. The net increase is greater every year, as it grows on a larger and larger population base (see figure). Fertility remains high in many less developed countries (LDCs) and is likely to remain high for an unknown length of time. Unless LDC fertility drops in an unprecedented manner in the near future, or some unforseen disaster occurs that dramatically increases the world death rate, a world population of over 10 billion is likely before population stabilization takes place, the report says.

Salas is optimistic that the decreasing trends in fertility rates can be maintained, and that the developing countries stand a good chance of bringing down their birth rates in substantially less time than it took the present developed countries. Salas examines the factors leading to reduced family size in both developing and developed countries, including increased education, general economic development, and effective population education along with easy access to contraceptive materials. He emphasizes, however, that many studies have "indicated the nature of the impact of population growth on global resources, the global environment and global development. Therefore, we cannot afford to be complacent about the nature of these interrelationships, minimize the pressures they generate, or underestimate the instability they perpetuate."

"Even during the present century we might not be able to claim to have provided for the basic needs of nearly half of the world's population spread not only across the developing countries but also in some pockets of highly advanced societies."

Due to the differences in fertility decline, some areas of the world will arrive at population stabilization sooner than others. South Asia will add the largest number of people before it stabilizes in the year 2100, with an increase in population from the present 1.4 billion to a projected 4.1 billion. By contrast, Europe is projected to achieve a stable population in 2030, with a population of 0.5 billion, adding only 0.05 billion to its current population. South Asia and Africa will between themselves account for over 60 percent of the world's total population at the time of stabilization, and will also have the poorest among the world's population.

The UNFPA sees its funding role as critical for some countries such as some in Africa, who otherwise would have no data base, training, or skills needed to implement any program. The funding is crucial to a number of medium-sized countries in which family planning programs receive a small portion of limited domestic resources, and acts as a catalyst in some countries in South America and Asia, who have more substantial funds allocated to family planning programs.

Salas reports that the "UNFPA has emerged as the principal multilateral funding organization for integrated population and development programs. Its annual budget amounts

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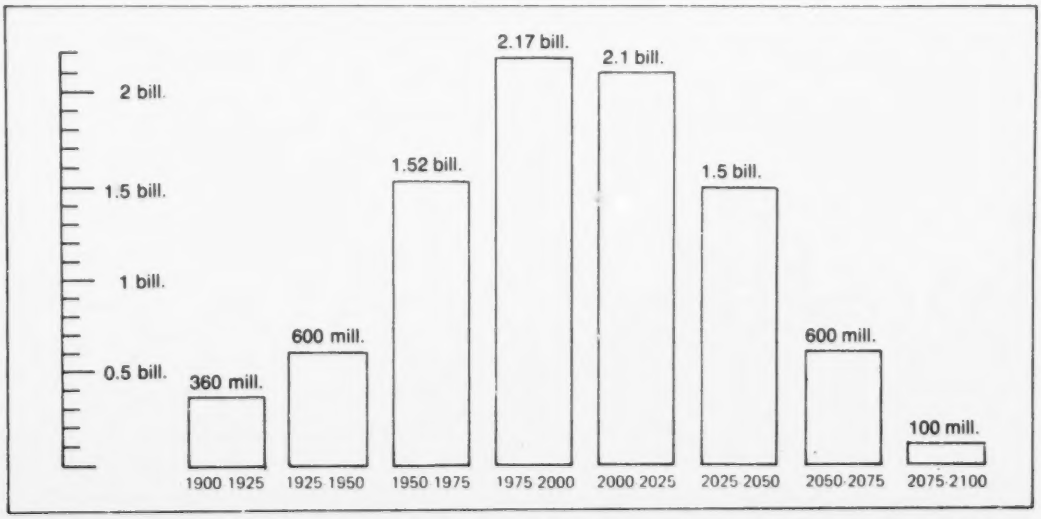

Net Additions to World Population in 25-Year Periods, According to UN Medium Projections.

Continued from preceding page

to $150 million per annum and its neutral and flexible policies have encouraged countries in the world to make efforts towards correcting the imbalances between global population growth and global resources."

He concludes that "we have reached a consensus that integrated global development and prospects for global stability are intertwined and depend on an enlightened understanding of the emerging demographic profile." □

New Census Director Nominated

Bruce Kerry Chapman was nominated by President Reagan July 13 to be the next director of the U.S. Bureau of the Census. Chapman, 40, is a former secretary of state of the state of Washington, where he has been active in politics. That he is not a demographer is not unusual; few of the Bureau's directors have ever been demographers. And Chapman is known as a writer who has written widely on social and statistical subjects. He is a one-time member of the liberal-Republican Ripon Society, and in 1964 he co-founded a liberal magazine, *Advance*, with George F. Gilder (who was later to become famous as the author of *Wealth and Poverty*, the socioeconomic bible of administration topsiders).

Observers see Chapman's nomination as a sign that the Reagan administration wants the Bureau to continue in its traditional independent data-gathering role, free from political influence and pressure.

If his nomination is confirmed by the Senate, Chapman would succeed Daniel Levine, who has been Census's acting director since director Vincent P. Barabba left office Dec. 13, 1980. □

Barbara Ward: 1914-1981

Barbara Ward was a British economist, journalist, lecturer, radio personality, prolific writer, gifted speaker, and idealist. When she died on May 31, 1981, of cancer, at the age of 67, a lifetime dedicated to advocacy on behalf of the world's poor ended. Although she never held government office, she exerted worldwide influence through her writing, speaking, radio, and (as many have testified) a personal charisma that left listeners spellbound and convinced. Her last years were dedicated to founding and leading the International Institute for Environment and Development, in Washington, D.C.

She was a close adviser to many world leaders, including John Kennedy, Lyndon Johnson, and Robert S. McNamara, who wrote: "She was always deeply concerned about the consequences of the population explosion, and when I consulted her in my early days [as president of] the World Bank, she urged me, against a lot of contrary advice, to speak publicly about the issue. But . . . she did not believe that a reduction in fertility rates could be achieved by propaganda and contraception alone. She believed that the will to have smaller families was a prerequisite, and that would come only with a decline in infant mortality. For this reason, she campaigned for what has come to be known as basic needs, and especially for that simplest, but most rare gift of nature—a supply of pure, unpolluted water."

Said McNamara: "With the death of Lady Jackson—Barbara Ward—the world has lost an eloquent evangelist for the hundreds of millions of poor and underprivileged who live in the developing world." □

Ambassador Benedick Works to Keep Population On U.S. and World Agendas

Last April marked the visit to China of the first official delegation to discuss U.S.-Chinese cooperation in population social science research. The delegation included U.S. Ambassador Richard E. Benedick, W. Parker Mauldin of the Rockefeller Foundation, Allen Rosenfield of Columbia University (and PRB Trustee), Robert Lapham of the National Academy of Sciences, and Katherine Chiu Lyle, Chinese Academy of Medical Sciences, Beijing.

During their 2½ week mission, they were briefed on Chinese programs and policy-related research in Beijing, Shanghai, Suzho, Chengdu, and Guanghou, and discussed research opportunities in such areas as sampling techniques, genetics, perinatal studies, demography, sex education, and age structure and the problems of aging populations. Discussions were held with policy-level officials in the central government, as well as officials in provincial governments, communes, family planning clinics, and demographic centers.

The sharing of research knowledge is expected to be two-way. China takes the problem of overpopulation probably more seriously than any other country, and the lessons its people have learned about population programs and contraceptives may be of benefit to other countries.

The Coordinator of Population Affairs

Ambassador Benedick, who led the delegation to China, is the State Department's Coordinator of Population Affairs. There are many U.S. government agencies with "population" in their titles, or involved in some way with population. The Office of the Coordinator of Population Affairs is a little different. Benedick presides over an office with a senior staff of four people that administers no programs, runs no overseas offices.

The Office's function, rather, is to serve as a focal point within the State Department and the U.S. government as a whole for connecting population concerns with U.S. foreign policy. That is to say, it ensures that the population side of global issues is not neglected, either in the development of policy, implementation of programs, or support of those policies and programs.

As the State Department's highest ranking official involved with facilitating the development and support of U.S. population policy, Benedick, since his appointment in 1979 (succeeding Ambassador Marshall Green), has undertaken many activities. In January 1981 he served as the U.S. representative to the biennial UN Population Commission meeting, and to the UN Fund for Population Activities Governing Council in June 1980 and June 1981. He consults regularly with the heads of such UN agencies as the World Health Organization and the Food and Agriculture Organization, as well as with foreign government leaders, private foundations, research institutions, and religious leaders.

He played a major role in preparing for, and participating in, the International Conference of parliamentarians on Population and Development, held in Colombo, Sri Lanka, in August 1979. This conference was considered the most significant international conference on population since the

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World Population Conference in Bucharest in 1974. Benedick also represented the U.S. at the September 1980 International Conference on Population and the Urban Future in Rome and the April 1981 International Conference on Family Planning in the 1980s in Jakarta.

The Office has also worked to place population concerns high on the world's agendas; for example, including population on the agenda of the Economic Summit Meeting that took place in Venice last year, and initiating an important resolution passed by the UN Economic and Social Council in May 1979 calling on all UN agencies to recognize "the need for full and urgent action to deal with population problems." And it was a Benedick initiative that enabled population language to be included in the UN's *International Development Strategy for the 1980s,* ratified by the General Assembly, which stresses the "need for countries to strengthen their implementation of the recommendations of the World Population Plan of Action."

Among its current efforts, the Office is trying to improve international coordination and raise the funding for biomedical research into better methods of family planning; for example, moving at UNFPA's recent meeting for expansion of the UNFPA mandate in this area.

U.S. Population Policy

Although the U.S. has no domestic population policy per se, it does have an international policy, articulated and coordinated by an interagency group chaired by the State Department. U.S. policy endorses the resolutions of the 1974 World Population Conference in Bucharest (which stated that couples have the right to determine their family size and that governments have the responsibility to provide couples with the information and means to make such decisions). U.S. policy expresses concern over the rapid population growth of recent years "based both on our traditional respect for human dignity and on our interest in economic and social development and political stability," in Benedick's words. And it stands ready to assist countries in voluntary family planning when they request it, recognizing that the primary responsibility for addressing population issues rests ultimately in each country's national will and actions.

With the advent of the Reagan administration, the continuity of U.S. international population policy remains unchanged. Secretary of State Alexander Haig, testifying before a Senate committee in March, noted that growing world population contributes to "economic dislocations" which "create conditions for violent disruptions with dangerous political consequences."

Peter McPherson, Director of the Agency for International Development, has underscored in congressional testimony that population assistance, together with food and energy, are top priorities in the new administration's aid program; he emphasized that the U.S. "must continue to assert our leadership" in international population programs.

Ambassador Benedick shares the view of former World Bank president Robert S. McNamara that (in McNamara's words), "short of nuclear war itself, population growth is the gravest issue that the world faces over the decade ahead." So he is concerned to find a "certain complacency" in world attitudes toward population issues, a complacency evidenced by a flagging of international support for population programs and for biomedical research funding. Population assistance is an integral part of U.S. aid, and comprises about 16 percent of AID's functional accounts. Nonetheless, its funding levels have stagnated along with the rest of foreign assistance.

Yet the demand is there, Benedick points out. The UN Fund for Population Activities has more requests for family planning programs than it can handle, while an increasing number of national leaders in all parts of the developing world are expressing concern over the adverse impact of excessive population growth on human welfare and economic and social development. And the need is there, as well. "It would be tragic for the world to act as if population growth is not a problem of overriding priority for our generation," Benedick told the Senate Foreign Relations Committee in 1980. "Bad as the projections of future numbers seem to be, it will be even worse if we delay.... For every decade of delay in achieving a two-child family norm, the eventual stabilized global population will be 10-15 percent higher – which means hundreds of millions added to an already seriously strained planet."

More recently he told the UNFPA meeting that "this generation bears a heavy responsibility of stewardship of those generations still to come, and the numbers clearly show that time is not on our side." □

Populandia Grows To 250 Million Small Citizens

Populandia is now a quarter-billion strong.

As of July 1, the verdant mini-continent's population had reached 252,029,427. Since INTERCOM's last dispatch (as of Feb. 5), the mythical country of Populandia has been growing by 207,431 a day.

This is the world's natural increase – the surplus of each day's births (estimated at 342,520) over each day's deaths (estimated at 135,089). And, as veteran readers will recall, after Populandia erupted out of the Pacific several years ago, its 16,000 square miles of new land was seized on as the "ultimate" answer to world overcrowding. Starting Jan. 1, 1978, Populandia began to receive all the world's natural increase, a process that has continued down to the present day.

Amazing that when INTERCOM's Vol. 6, No. 1 came out, Populandia had a population of zero. Whereas now, with the publication of Vol. 9, No. 7, it contains over a quarter-billion people, many of whom are old enough to walk, talk, and get into mischief outside of their nurses' view. Coming up: kindergarten.

Ever since Populandia appeared on the scene as the world's last, best patch of real estate, many countries have brought forward none-too-convincing claims upon it. These claims (now before the World Traffic Court in The Hague, Netherlands) include those of Libya, which wants to merge with Populandia; the USSR, which needs a warm-water port; Israel, which would like to establish settlements in it; the U.S., which is shopping for drilling rights; South Africa, which wants to use it as a homeland; and Kuwait, which would like to purchase it. □

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Latin America and Caribbean Migration: A Regional View

by Laura Lippman and Sergio Diaz-Briquets

The share of total, legal immigrants to the U.S. from Latin America has more than doubled in the last two decades. Much public attention has been placed on the hundreds of thousands of illegal workers from Mexico, the Caribbean and Central America, and the arrival of over 150,000 Cubans and Haitians to south Florida in 1980. What is often overlooked, however, is that these migrants are but part of a broader international population redistribution process, both legal and illegal, affecting the southern neighbors of the U.S.

Some of these population movements are a continuation of migratory flows established before the Second World War, while others are of more recent origin. What appears certain is that the volume of international migration, including refugee flows, has accelerated not only within Latin America itself but from the region to the United States and elsewhere. In 1974 it was estimated that within South America alone nearly 3 million Latin Americans resided outside of their countries of birth. That figure may have doubled by 1979.[1] When adding Caribbean and Central American origin migrants, the total number of Latin American and Caribbean emigrants, residing both within the region and the developed world, may reach 10-12 million people (allowing for the uncertainty of estimates).

Any estimate of the number of Latin American origin international migrants, however, must be viewed with caution, as Table 1 suggests. Impressionistic estimates of migration tend to greatly exaggerate the true magnitude. More dependable estimates of migration may be obtained from census or transit data, but the quality of these data varies from country to country, as do the definitions of what constitutes a migrant. Further, the entry or departure of illegal migrants is not statistically recorded. In addition, much of international migration in the region results from short-term economic and political factors often making migration estimates obsolete shortly after they are made.

Principal Migratory Flows

The most notable migratory flows in South America are to Argentina and Venezuela. From 1.6 to 2 million Latin American migrants mainly from Bolivia, Chile, tina by the mid-1970s (see Table 1). Estimates vary, but some observers believe that Uruguay may have lost up to 10 percent of its population during the 1970s due to migration. Venezuela, while home to tens of thousands of legal Latin American immigrants, has also received many undocumented migrants. Estimates of the number in 1980 range widely – from under 1 million to over 2 million, though only 350,000 undocumented migrants took advantage of an amnesty program implemented in 1980. Most of the migrants in Venezuela are from Colombia, but others originate in Cuba, the Dominican Republic, and various South American nations.

Colombians also migrate to Ecuador and Panama in addition to Venezuela. Brazilian migration to rural areas of Paraguay constitutes another important and more recent migratory flow. From 40,000 to 100,000 Brazilians were in Paraguay by 1975. At the same time, Brazil, itself has attracted thousands of migrants from Paraguay, Argentina, and other countries. Migrations, in brief, appear to be a generalized occurrence among contiguous countries in South America.

In Central America, international population displacements have been commonplace, gaining in magnitude in recent years. Some observers believe that as many as three hundred thousand Salvadorans may have been living in Honduras prior to the 1969 war between the two countries, although the figure is disputed. Many were expelled. Some returned to El Salvador while others eventually found their way to other neighboring countries. The current civil strife in El Salvador has precipitated another outflow, growing during the last six months from an estimated total of 33,000 to a current total ranging from 180,000 to 300,000. Salvadorans are reported to have fled to Honduras, Nicaragua, Costa Rica, Panama, Belize, Mexico, and the United States. Mexico is also home to 30,000 Guatemalans that have left their country since last year, and as many as 50,000 more may seasonally migrate each year to work on the coffee plantations in southwestern Mexico.

Nicaragua has also been an important contributor of migrants in Central America. In 1973, some 23,000 Nicaraguans were enumerated in the Costa Rican census. During the 1979 Nicaraguan revolution, 200,000 people fled to neighboring countries although most of them returned following the political changes of that year. Former supporters of the Somoza regime and others disaffected with the present government left Nicaragua and now reside permanently in Honduras, Costa Rica, and the U.S.

Intraregional migration in the Caribbean appears to continue although no one seems to know for certain at what intensity. Sugarcane cutters from Haiti migrate seasonally to the Dominican Republic, and though estimates vary, the current number of Haitians residing in the Dominican Republic is likely to exceed 100,000. In the 1960s, growing numbers of Haitians began migrating to the Bahamas numbering – according to one estimate – 40,000 by 1974.[2] Thousands have been forcibly expelled in the last few years. Other migratory flows within the Caribbean are of students and professionals from the Leeward Islands and Guyana to Trinidad and Tobago and Jamaica. Earlier

flows of Haitians to Cuba that peaked during the first quarter of this century have, for all practical purposes, ended, except for the occasional and unintended arrival in Cuba of a sailing sloop heading for Florida.

Caribbean migration to the United States is substantial. The rising influx of Haitians has been gaining attention because of its desperate and largely illegal nature. Observers estimate the Haitian population in the U.S. to be 450,000, including illegal residents, and recent press reports suggest that 600 to 1,300 Haitians arrive in southern Florida each month.[3] It is claimed that hundreds of thousands of migrants from the Dominican Republic reside in the United States. The most dramatic example of Caribbean migration to the U.S. was the Mariel boatlift from April to September 1980 during which some 125,000 Cubans came to the U.S. following the unusual circumstances at the Peruvian embassy in Havana. This was the climax of the migration of approximately 800,000 Cubans who have sought refuge in the U.S. since the late 1950s.

Migrants from Colombia and other countries in Central and South America have also come to the United States in increasing numbers during the last two decades. Colombians have established large migratory colonies in New York City and Miami, Florida. Salvadorans and Guatemalans, many impelled by the deteriorated economy and civil strife in their home countries, have come to the United States in the past few years. Some do so by crossing illegally from Mexico, the last frontier along a trip through various countries.

The above flows are in addition to the unknown number of Mexican nationals illegally working in the United States. The controversy surrounding the actual number of Mexican workers in the United States continues. Some estimates place their number between 3.5 to 6 million, but the Mexican Ministry of Labor believes the figure is much lower. On the basis of a 1979 study, the Ministry concluded that the number of illegal Mexican migrants fluctuates seasonally between 480,000 and 1.22 million.[4] Most observers seem to agree that many illegal Mexican workers only come to the U.S. on a temporary basis.

Determinants of Migration

The factors that have given rise to increasing migration are reasonably well understood. Within Latin America itself, most migratory flows are influenced by historical and structural features of the regional economy that sustain marked differences in living standards between and within countries. These very same factors that impel migrations from one Latin American country to another are responsible for emigration from the region to the United States and other developed countries. Dramatic differentials in average living standards between Latin America and the developed world enhance the migratory tendencies.

One major difference is that emigration to the developed world tends to be more selective: that is, a disproportionate number of migrants to the developed world have skill levels above the average of their origin populations, compared to migrants between Latin American countries. The reasons for this are obvious.

Table 1
Estimated Number of Immigrants (Including Legal and Illegal) Residing in Argentina, Venezuela, and the U.S. in the 1970s, by Selected Countries

Immigrants From	Census Estimate	ILO Estimate	Other Estimates
Residing in Argentina			
Year of estimate	(1970)	(1974)	(1973-1979)
Bolivia	101,000	500,000	178,000- 650,000
Brazil	48,600	70,000	77,000- 200,000
Chile	142,150	350,000	200,000- 700,000
Paraguay	230,050	600,000	470,000- 700,000
Uruguay	58,300	80,000	71,000- 400,000
	580,100	1,600,000	996,000-2,650,000
Residing in Venezuela			
Year of estimate	(1971)	(1974)	(1973-1979)
Argentina	4,481	20,000	
Bolivia	1,166	10,000	
Brazil	2,345	20,000	
Colombia	177,973	600,000	442,000-1,200,000
Chile	2,999	20,000	
Ecuador	5,292	20,000	
Peru	2,168	20,000	
Trinidad & Tobago	4,870	30,000	
	201,294	740,000	
Residing in the United States			
Year of estimate	(1970)	(1980)	
Cuba	445,990	830,000	
Haiti	29,168	450,000	
Mexico	744,277	2,000,000- ?	
Other W. Indies	233,507		
Other Central & S. America	372,462		

Note. A sense of the unreliability of the migration estimates may be obtained from the range of the above figures.

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First, employment and other opportunities are considerably more abundant and promising (to the potential migrant) in the advanced economies. Second, developing economies do not generate a comparable demand for semi-skilled and skilled immigrants. And, thirdly, these potential migrants with skill levels above the average can more easily overcome the cultural,

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physical, language, and legal barriers separating sending and receiving countries.

A majority of migrants from one Latin American country to another, on the other hand, have very low skill levels. In a very real sense they are "pushed" from their home countries by structural conditions that offer no more than precarious living conditions. A good example of these structural factors are the prevailing patterns of land distribution. Excessive land concentration precludes many peasants from having access to viable agricultural holdings. Thus they or their children are forced to migrate to the cities or to other rural areas in their countries or in neighboring nations. Agricultural modernization has further aggravated the problems of rural labor underutilization which tends to displace workers and to induce greater land concentration. A clear manifestation of these developments is the frontier expansion and colonization across borders that has been occurring for years. Population displacements of this sort have taken place across the borders of countries all over the region, such as from Colombia to Venezuela and Ecuador, and from El Salvador to Honduras.

Ecological factors have also been implicated in regional migrations. Some analysts have indicated that poor peasants overuse marginal lands since they are denied access to richer soils by large landowners or simply because of land unavailability. Thousands of Salvadorans and Haitians, to cite the two best known examples, have been forced to migrate because of considerable soil erosion in their countries, which severely diminishes the fertility of the land.

Employment opportunities and wage differentials between countries play an important role in inducing international migrations. Reports from countries all over the region indicate that migrant workers earn considerably higher wages in countries to which they migrate. Wage differentials between Latin America and the United States are considerable. Mexican workers in the United States can earn at least three times what they would earn for similar work in Mexico. Some professional migrants, such as physicians, literally can earn fortunes in the United States.

Higher wages, however, are just one aspect of complex economic interactions in a country which may attract migrants. Different sectors of a country's economy expand at different rates. Migrants may be able to find employment in expanding sectors of a sluggish national economy, or even in declining sectors which may still provide higher wages than could be obtained in the home country. Changes in the geographical and/or sectorial distribution of labor may result in manpower shortages in receiving countries, as occurred in Argentina. Labor shortages may also be created by the refusal of natives to do what is considered demeaning work. This has occurred in the agricultural sector in Argentina and the Dominican Republic. In the latter country, Dominicans refuse to cut sugarcane because of the low status and pay. In the United States many migrants find employment in agricultural labor and other low-status menial occupations.

At the other end of the skills spectrum, students and highly trained professionals migrate seeking, in addition to higher incomes, better educational or professional opportunities than their home country can provide. Some developing countries cannot absorb many of the professionals and technicians graduating from their universities. There are reports of such migrations from Uruguay and Paraguay to Argentina as people seek better opportunities and higher wages. The brain drain from Latin America to the United States is well known.

Operating on all levels is the improvement of communication and transportation throughout the area, spreading knowledge of opportunities abroad and facilitating the actual migratory process. Direct evidence of this may be seen in the migration from Brazil to Paraguay, made possible by a new highway. Transportation improvements are believed to be an important pre-condition for many regional migration flows, including those from Latin America to the United States.

The impact of population growth on migration is not clear-cut. Immigration to a country may occur regardless of whether the country has high or low rates of population growth. For example, Argentina with a relatively low rate of natural increase (1.6) and Venezuela with a high rate of natural increase (3.0) are both major migrant-receiving countries. Countries of emigration, as well, may also differ in their population growth rates. Uruguay has a low rate of natural increase (1.0) and Colombia's has fallen to 2.1, yet these have been major migrant-sending countries. Relatively few people emigrate from Ecuador or Peru, although these two countries have growth rates which are among the highest in Latin America.

The critical factors seem to be wage and employment differentials between sending and receiving countries and the rate at which jobs are generated, although undoubtedly the demand for employment is related to the pace at which the labor force increases. But, as may be concluded from the above, it would be erroneous to assume, as some observers are prone to do, that most migratory flows across national borders in or from Latin America are principally determined by population growth. In some cases population growth may be an important determinant of emigration while in others it may not. The same country may be both an importer and an exporter of migrants in different sectors of its economy and different regions of the country. Mexico and the Dominican Republic are two obvious cases, as indicated by the multiple directions of flows involving those countries.

Structural factors within a country's economy, then, appear to be the main determinants of migration, and as these change, along with social and political circumstances, so do migratory flows. Political upheavals, in no small measure induced by attempts at structural readjustment, are increasingly creating refugee flows in the area, and these are likely to continue at an even higher frequency. Such changes will

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Growth and Pollution in Mexico City

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lakebed. As more and more subterranean water is withdrawn, the city is gradually sinking (35 feet in the past 70 years) while the government continues to authorize new wells to meet increasing water needs.

Meanwhile, in the air, pollutants have increased by 30 percent in the past four years. About 7.8 million tons were spewed into the atmosphere in 1980. Some 80 percent of this comes from the city's 2 million cars, including 2.5 million tons of carbon monoxide. (There are no pollution controls on Mexican cars, and many of these are old, worn-out *carcacharas*, i.e., "clunkers," with very bad breath.)

In 1980 the U.S. government's Global 2000 report produced a set of projections in an attempt to relate probable changes in world population, resources, and environment by the end of the century. The report depicted consequences and contradictions that were likely to develop if present public policies and institutions continued unchanged.

In the Valley of Mexico, if anywhere, *Global 2000's* prognostications on population, resources and environment are being played out.

Surely these events and their increasing magnitude have not escaped notice within developing countries themselves. But is there any evidence that attitudes and public opinion are being changed, that pressure groups are emerging and government policy is shifting in response to *Global 2000*-type challenges?

To judge by the Mexican press, Mexicans have become fully conscious of and concerned about environmental damage and too-rapid population growth. Major concerns stand out in articles, editorials, letters to the editor, features: controlling further pollution, reducing noise levels, decentralizing industry out of Mexico City (see also INTERCOM, March 1981), reforesting the denuded valley, and increasing the city's water supply safely.

'Recopilacion Periodistica'

A remark by a former colleague led this writer to an invaluable mine of information on the status of Mexican population-ecology-environment issues. In early 1980, a group of Mexican public officials began undertaking the task of collecting ecologically related clippings, organizing them, and releasing them to a small, influential audience. This clipping and distribution is conducted by the Centro de Documentacion y Analisis, a dependency of the Coordination Commission for the Agricultural Development of the Federal District.

As many as 100 articles from Mexico City newspapers accrue, are photocopied, and released weekly in a thick packet as *Recopilacion Periodistica sobre Temas Ecologicos, Resumen Semenal.* The clippings are indexed under such headings as contamination, degradation, urban development, ecology, flora and fauna, reforestation, appropriate technology, international notes, and newspaper editorials. Some 3,500 pages of clippings have been published to date.

Recopilacion Periodistica also reports steps the Mexican government is starting to take in this area. Earlier this year, for example, the state of Mexico (which largely surrounds the capital city) announced an ecological plan to control further pollution and disposal of wastes, clean up the drinking water, and plant 50 million trees a year. Meanwhile the Subsecretary of the Improvement of the Environment announced that a new law would be promulgated in 1981 to put more rigid pollution controls on industry and to lower the levels of emissions permitted.

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continue to foster migration in the future, and most likely at an increasing rate.

It is doubtful, however, that transforming the structures which presumably stand behind Latin American emigration would succeed in stopping population flows in the future, unless many other factors also coalesce to bring about lasting and satisfactory changes. Cuba, for example, has changed those structural conditions that supposedly lead to emigration from other countries in the region. Yet recently, emigration from Cuba has occurred at a rate higher than from any other country in Latin America, since new and perhaps more powerful emigration inducements have been created.

The circumstances precipitating migration and the increasing number of migrants cannot be ignored. Attempts to deal with the situation, however, are sparse and basically concerned with the symptoms rather than the cause. Venezuela has declared amnesty to regularize the status of undocumented workers, and the Reagan administration is considering a system of work permits directed at the undocumented Mexican worker population in the United States. These measures, however, only address the more immediate and pressing problems that migrants "create" in countries of destination. The only permanent solutions to control the "immigration problem" for both sending and receiving countries may be reached through (a) the reduction of differences in living conditions between the rich and the poor, be they people or countries; (b) the satisfaction of the rising aspirations of the people of Latin America and the Caribbean; (c) more accommodating, stable, pluralistic, and just political environments in sending countries; and (d) the reduction of the pressures that rapid population growth exerts on the employment markets of some Caribbean and Latin American countries. □

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Again and again in the clippings, the acknowledgment appears of the acute need to reduce Mexico's population growth rate (some reduction has already been achieved as the result of the national family planning program), and particularly that of Mexico City. But even as Mexico's birth rate declines (from 45 in 1965 to 35 in 1980), total numbers will continue to rise substantially over the next half century and more.

The year 2000 as a projection target date has long been in vogue. But of course populations of Mexico and other countries will go on growing far beyond that arbitrary (and no longer so distant) date.

Mexico's future increases are largely a function of a youthful population and slowly changing demographic structure that currently shows 45 percent of the total population now under age 15, with 36 percent expected to still be in this youthful category by 2000. Consequently, the Santiago, Chile-based Latin American Demographic Center (CELADE) now projects a Mexican population of 116 million in 2000 and an incredible 174 million by 2025, even under conditions of a steadily declining birth rate (projected to fall from 38 births per 1,000 population in 1975-1980 to 27 in 1995 and 19 per 1,000 in the 2020-2025 interval).*

In short, there will be no letup to current pressures in the forseeable future. In labor force terms, the young population looking for work is greater every year. The young (aged 10-24) form 6.2 million of Mexico's labor force. This group has doubled compared to 25 years ago, and by the year 2000 it will have doubled again, in a country where unemployment and underemployment are endemic. And in Mexico, when people are out of work, they gravitate toward Mexico City.

The Future

The deterioration of natural systems is readily apparent in various other parts of Latin America, and easily observed. Both in a drop-by-drop, seemingly imperceptible fashion (the severe pesticide contamination of Central American soils, for example), and in a fashion that is blatently obvious, mounting population pressures are placing enormous strains on natural as well as social, economic, and political systems. In this observer's recent memory are scenes of severe soil erosion in El Salvador; crushing unemployment as shown by the dozens of streetcorner youth in Kingston, Jamaica; severe air pollution in Bogota, Colombia, limiting vision to one block; extensive and growing slum districts as Lima, Peru, approaches 5 million inhabitants; and from the air, the deforestation of vast tracts of the Amazon basin. Mexico is not alone in its problems.

Readers interested in more information on *Recopilacion Periodistica* or its clippings may write to Robert W. Fox, Inter-American Development Bank, 808 17th St. N.W., Washington, D.C. 20577; or INTERCOM, PRB, 1337 Connecticut Ave. N.W., Washington, D.C. 20036; or directly contact the newsletter in Mexico: Centro de Documentacion y Analisis, Comision Coordinadora para el Desarrollo Agropecuario del Distrito Federal, Av. Ruiz Cortinez No. 3313, San Jeronimo Lidice, Mexico, D.F., Mexico, Attn: Carlos Talavera Velazquez. □

*CELADE, "América Latina: Países según Tasas de Crecimiento Periodo 1980-1985," *Boletín Demográfico*, Año XIV, No. 27, Santiago, Chile, January 1981.

Robert W. Fox is a senior social analyst at the Inter-American Development Bank, in Washington, D.C.

Photo: Organization of American States

Mexico City—third most populous urban area and moving up fast.

1980 Census Publications To Be Trimmed Back

Due to various budgetary and operational problems, the Census Bureau has announced a revision of their schedule for release of some of the 1980 Census data products—most products will be delayed by several months. In addition, cutbacks on certain publications appear likely. Several items will be available on microfiche only, including the Detailed Population Characteristic series, (PC80-1-D). This series publishes a state by state listing of 22 vital population characteristics, such as race and nativity, school enrollment, veteran status, family composition, and citizenship. Other products will not be available on microfiche.

These and other proposed cutbacks are outlined in more detail in the latest issue of *Data User News*, (Vol. 16, No. 6, June, 1981) published by the Department of Commerce, Bureau of the Census. The article points out that these proposed changes could be affected by pending litigation, and final decisions will be made later. The article also suggests that some items could be made available to the public by State Data Centers, Census Statistical Areas Committees, or by private industry. Since census data are not covered by copyright restrictions, anyone can print copies. More information about the proposed cutbacks and delays will be carried in future issues of *Data User News*.

So You Want to Work in Population?

The following were inadvertently left off of INTERCOM's list of universities with graduate programs offering a concentration in demography (June 1981 issue, page 11).

Iowa State University, Ames, Iowa, offers both an M.S. and a Ph.D. degree in sociology with a concentration in demography. Expansion of these programs is planned for the near future.

Florida State University, Tallahassee, Fla., offers an interdisciplinary population program at its Center for Study of Population. Graduate students at the Center study for an M.S. or Ph.D. in economics, government, or sociology with a concentration in demography. A nondegree Certificate in Demography is also offered at the Center, involving cross-disciplinary master's-lever population courses.

Electricity from Water Could Supply World Energy

Falling water is the source of one-quarter of the world's electricity, but today, most of the energy potential in falling water remains untapped. According to a new study released in Washington by the Worldwatch Institute, if all economically available hydropower were harnessed, most of the world's electricity needs could be satisfied.

Worldwatch Paper 44, "Rivers of Energy: The Hydropower Potential," explores the economic potential of this promising alternate energy source in the postpetroleum era. "Hydroelectric complexes will be producing energy long after the oil wells run dry and coal fields are exhausted. Hydropower is a clean, renewable, and above all, inflation-proof energy source." It is also widely dispersed throughout the world, making it easier for each country to answer its own energy needs. Many countries already rely heavily on hydropower for generating electricity. Norway, for example gets 99 percent of its electricity from falling water.

Author Daniel Deudney writes that "large dams are among humanity's greatest civil engineering accomplishments." The Itiapu Dam between Brazil and Paraguay on the Parana River will soon generate as much power as 13 large nuclear power plants, making it the largest power complex on earth. Such large dams bring many benefits and have a substantial impact on local economies. With power from the Aswan High Dam, Egypt has been able to electrify 99 percent of its villages.

But large dams can also have a serious impact. The lands opened to irrigation may not equal the amount of valuable river bottomlands flooded by the dam. The new reservoirs can threaten wildlife and rare plant species, displace a substantial number of people from their homelands, and in tropical regions, spread waterborne diseases, such as schistosomiasis. For this reason, Deudney suggests that small-scale hydropower plants may in many instances be more beneficial, on balance. They don't have the large-scale environmental impact, and they also serve to ameliorate the problem of high costs for transmitting power long distances. The Chinese have built 90,000 such small hydro units since 1968. These are often attached to irrigation ditches and are built by village artisans using local materials. They electrify the villages and serve local industry. This grass-roots participation in planning and developing can minimize many problems associated with both large- and small-scale projects.

"Venezuela and Mexico are investing their new-found petroleum wealth in hydro facilities, banking against the day when their oil runs out." These countries have the capital to invest in new energy sources, but for full development of hydropower's potential, coordinated effort by international lending institutions, national governments, and local communities will be required.

In the U.S., less than 3 percent of the dams currently generate electricity. As much as 50,000 megawatts of electricity—the 1980 capacity of all U.S. nuclear plants—is estimated to be available from small and large dams that are not now used to generate power.

Deudney concludes that hydropower is a worthwhile investment in our energy future. "Every barrel of oil or ton of coal burned today is one less for the next generation. But every new hydro plant adds to the energy supply of future generations." □

Copies of *Worldwatch Paper* 44, "Rivers of Energy: The Hydropower Potential," are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

grants/contracts

• University of Illinois, Chicago Circle Campus, School of Liberal Arts & Sciences: **Strategies for Inheritance — Rural Iowa, 1870-1920,** R.J. Jensen and M.W. Friedberger, investigators. This study seeks to investigate problems raised but not resolved by research in the historical demography and social history of rural America in the 19th and early 20th centuries. It will study the linkage between farm family fertility and inheritance patterns, the various intergenerational relationships, and the transmission of wealth to the next generation. (Funded by U.S. Dept. of HHS, National Inst. of Child Health & Human Development, FY 1981 $46,814.)

• U.S. Dept. of Defense, Uniformed Services University of the Health Sciences, Dept. of Pharmacology, Bethesda, Md.: **Marihuana and Reproduction in the Female Primate,** C.G. Smith, et al., investigators. The project is a continuation of research on the effects of marihuana (delta-9-tetrahydrocannabinol) on the reproductive system. Tetrahydroxannabinol (THC) is administered to sexually mature female Rhesus monkeys followed by a measurement of gonadotropic hormones and sex steroids. Initial studies have shown that THC can alter productive hormones in both male and female monkeys. The present study seeks to further define the effects on the menstrual cycle and fertility in the female monkey, and to determine blood levels of THC necessary to produce these effects. (Funding from Dept. of HHS, National Inst. on Drug Abuse, FY 1981 $37,198.)

• University of Colorado, Denver, Health Sciences Center, School of Medicine: **Estrogen Effects on Biliary Lipids and Bile Acid Kenetics,** F. Kern, Dept. of Medicine, investigator. The objectives of this proposal are to study the mechanisms which underlie the increased incidence of cholesterol gallstones in women, especially during the childbearing age and among those taking contraceptive steroids. Researchers will determine the effect of pregnancy, the normal ovulatory cycle and contraceptive steroids on biliary lipid composition, bile acid kinetics, cholesterol secretion and gallbladder function in an effort to understand the interaction between hormones and factors giving rise to this gallbladder dysfunction. (Funded by U.S. Dept. of HHS, National Inst. of Arthritis Metabolism & Digestive Diseases, FY 1981 $22,154.)

• Brookings Institution, Washington, D.C.: **U.S. Immigration Policies and Patterns—Foreign Policy Aspects,** M. Morris, investigator. This project will study the foreign policy aspects of U.S. immigration policies and practices. The researchers will: (1) review the international migration patterns and their implications; (2) focus on illegal immigration to the U.S., factors contributing to the flow, implications for the sending countries, and steps to reduce the flow; and (3) assess the feasibility of strategies identified for dealing with the problem. Strategies include modifying laws to increase immigration opportunities, offering economic assistance, with an emphasis on increasing employment opportunities in rural areas, improving access to commodity markets in developed countries, and encouraging population planning. (Funded by U.S. Dept. of Labor, Employment & Training Administration.)

wfs update

Carl Haub, PRB Staff Demographer, prepared this report on the World Fertility Survey, which are now being received again at PRB. Additional reports on the survey, which will ultimately cover 61 countries, will appear in INTERCOM as results become available.

Copies of the WFS Country Reports may be obtained from the World Fertility Survey, 428 Prinses Beatrixaan, 2770 AZ Voorburg, Netherlands.

Paraguay

The results or Paraguay's 1979 participation in the World Fertility Survey, Encuesta Nacional de Fecundidad (ENF), have recently been released. Paraguay, an essentially landlocked country bordered by Bolivia, Brazil and Argentina, consists of two important geographic divisions: The semiarid Chaco region in the West is very sparsely populated and the vast majority of the people live in the East, most within 100 miles of Asuncion, the capital. Access to the ocean is provided by the Paraguay-Parana river system. The majority of the population understand both Spanish and Guarani, the language of the original inhabitants. About 50 percent of Paraguay is covered with forest, but the 2 percent of the land under cultivation allows the country to be essentially self-sufficient in mosts foods.

Paraguay's population, which was enumerated as 1,328,452 during the 1950 Census now stands at about 3.3 million. The birth rate declined very slowly during that period and a faster decline in the death rate due to improving life expectancy caused the rate of population growth to increase from about 2 percent in the early 1950s to about 2.6 percent today. The government has indicated that its current and projected population size are too small, thus hampering development of its resources. The government is also concerned about the emigration to neighboring countries. A family planning program is maintained, primarily for purposes of maternal and child health.

In all, 4,622 women aged 15-49 were interviewed by the ENF and the results are consistent with previous data on slowly declining fertility. For the sample, a total fertility rate of 4.9 children per woman was estimated. This is actually slightly higher than data collected in a survey several years earlier would indicate, but it is felt that the estimate produced by the ENF is more accurate due to superior survey methods. This rate of 4.9 represents a considerable drop from the 6.6 children per woman of the late 1950s, but other survey responses suggest that, while further declines can be anticipated, they may also be gradual. Most of the declines in fertility have been evidenced for women over age 25, where the trend has been steadily downward. Rates for women 15-24 are thought to have remained nearly constant. When the women were questioned as to the number of children they desired during their lifetime, however, those 15-19 at the time of the survey said 3.7, while those 20-24 gave 4.0, both responses noticeably lower than the total fertility rate of 4.9.

The overwhelming majority of the respondents were aware of family planning methods, with 85 percent aware of the pill. Among ever-married women, contraceptive knowledge is nearly universal regardless of age. But only about 50 to 60 percent of the ever-married women actually have ever used any method and a little less than half of the women in the prime childbearing ages use an effective method. Ever-use among ever-married women 15-19 was quite low, about 24 percent. There were many strong relationships among use of contraception and urban/rural residence, at present, urban/rural residence as a child, and education.

Thus, Paraguay's WFS indicates that women in that country still desire about 4 children each, tend to begin childbearing rather quickly and then may turn to family planning for childspacing purposes. It would seem likely, then, that Paraguay's rate of growth may decline in the coming years, but quite slowly. □

New Population Studies Published by NAS

The National Academy of Sciences Committee on Population and Demography has issued reports 4 and 5 in its series of studies:

Report No. 4. *Age Misreporting and Age–Selective Undernumeration: Sources, Patterns, and Consequences for Demographic Analysis*, prepared by Douglas C. Ewbank for the Panel on Data Collection, 112 pp. plus xv, $5.00.

Report No. 5 *Estimation of Recent Trends in Fertility and Mortality in Bangladesh*, by the Panel on Bangladesh, 117 pp. plus xvii, $5.25.

The Committee was originally given three major tasks: (a) to evaluate available evidence and prepare estimates of levels and trends of fertility and mortality in selected developing nations; (b) to improve the technologies for estimating fertility and mortality when only in incomplete or inadequate data exist (including techniques of data collection); and (c) to evaluate the factors determining the changes in birth rates in less-developed nations.

No. 4 is the first report in the entries that deals with task (b). The first reports dealt with estimates of fertility and mortality in Korea, Thailand, and Honduras. □

Copies of these reports are available from the National Academy Press, 2101 Constitution Avenue, Washington, D.C. 20418, at the prices indicated.

world food news

Rains Come to Africa

Although abnormal food shortages persist in 22 African countries, there are signs that the devastating two-year drought may be over. Rain has come to Djibouti, Somalia, Kenya, northern Uganda and southern Ethiopia. Crop conditions are normal or favorable in most of West Africa and the Sahel region. In southern Africa, most countries are harvesting their first good grain crop in three years. Unfavorable crop conditions continue in Angola, Mozambique, Ethiopia, Tanzania, Morocco and Madagascar.

Despite the rains, according to FAO reports, Africa's immediate food problems are severe. There are some remaining pockets of drought, while flood conditions prevail in other areas. The large number of refugees, total depletion of stocks and the slow arrival of imports and food aid continue to keep millions on the edge of hunger.

Worldwide Outlook

As of the beginning of June, global crop conditions appeared better than in several years. Winter wheat output will be sharply higher across the Northern Hemisphere and weather conditions are generally favorable for spring planting of wheat and coarse grains.

According to the latest FAO estimates, world wheat output this year could be up 20 to 40 million tons, while coarse grains could rise by as much as 75 million tons. Rice output should be similar to that of 1980 but much depends on this month's monsoon rains in Asia.

While the fear of an immediate new "world food crisis" appears to be ebbing, the world demand for cereals will rise again this year because of increased consumption and the need to replenish stocks. Despite higher forecasts for production, grain carryover stocks at the end of the 1981-1982 crop year will still remain depressed at about 14 percent of world consumption.

FAO Council Meeting

When the FAO Council holds its 79th session this month, higher food production forecasts will be heartening, but most other measures of the food situation will be bleak, particularly in the LDCs.

- In the last few years, the rate of growth in world food production has faltered. It grew by less than 1 percent in 1979 and by only .3 percent in 1980, both figures far below global population increase.

- Food price inflation in developing countries is gaining momentum. Estimates for the first half of 1980 indicate that in 32 of 44 countries surveyed food prices were rising faster than in 1979. Between 1972 and 1978 food prices in 47 developing countries grew faster than the overall rate of inflation in all but one year.

- The value of food imports of developing countries reached $38 billion in 1979, $5 billion higher than the year before and with four-fifths of the increase accounted for by non-oil exporters.

- World production of food fish showed no increase in 1979, confirming a slowdown over the previous five years. Production gains that did occur in developing countries were mostly in the export sector, with an actual decline in per capita availability.

WFP Aid

One million drought victims in the Chinese province of Hebei will receive emergency food supplies worth $2.5 million from the World Food Programme. The province reportedly has suffered its worst drought in 40 years.

WFP also has earmarked $1.3 million in emergency food relief for Salvadoran refugees. Honduras, Nicaragua, and Costa Rica already have requested emergency aid and two other Central American countries are expected to follow suit. WFP already has authorized borrowing of food from stocks in the host countries.

At its May meeting, WFP's governing body also approved $211 million in food aid to support 17 development projects in 13 countries. □

World Food News is prepared for INTERCOM each month by the North American Liaison Office of FAO, the Food and Agriculture Organization of the United Nations.

Series Describes Status of Women

CHANGE International Reports on Women and Society has published its third report: "The New Soviet Woman: Model or Myth?" The pamphlet examines the wide implications of being a female citizen in the USSR, where women have easier access to abortion than to contraception—an anomaly that, along with concern about the quality of obstetric and gynecological care, has spurred the formation of a feminist movement in the USSR.

CHANGE's report No. 2, "Providence and Prostitution—Image and Reality for Women in Buddhist Thailand," has proven very popular and is being reprinted. No. 1, "Economic Development and Women's Place—Women in Singapore" is also available. The next report will be on Chile, followed by Peru and possibly by Brazil, Israel, and Tanzania.

CHANGE is a London-based feminist organization whose aim is to advance the recognition of women's human rights around the world and to publicize their abuse by political, economic, and social institutions. □

Each report costs $3.00 (£1.25) and is available from CHANGE, Parnell House, 25 Wilton Rd., London SW1V 1JS England.

Vital Statistics Update

Provisional U.S. Vital Statistics: March 1981

Item	12 months ending with March			
	Number		Rate	
	1981	1980	1981	1980
Live births	3,631,000	3,512,000	15.9	15.6
Deaths	2,007,000	1,944,000	8.8	8.6
Natural increase	1,624,000	1,568,000	7.1	7.0
Marriages	2,389,000	2,389,000	10.5	10.6
Divorces	1,190,000	1,170,000	5.2	5.2
Infant deaths	44,800	45,200	12.3	12.9
Population base (in millions)	...	...	227.8	225.3

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates.
Source. Monthly Vital Statistics Report (Vol. 30, No. 3) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

RACIAL AND ETHNIC RELATIONS IN AMERICA, by S. Dale McLemore. Boston: Allyn and Bacon, 1980. 379 pp. $16.95. ISBN 0-205-06827-8. LC 79-16359.

In this sociological textbook, McLemore traces the overall development of racial and ethnic relations in America from the first European settlers to the present time. Sociological theories of assimilation, prejudice, and discrimination as well as the concepts of the "melting pot" and cultural pluralism are discussed and illustrated using various ethnic groups. From 1700, when Anglo-Americans dominated the native American Indians, to the involuntary inclusion of blacks, and Hispanos already living in the Southwest, McLemore presents the incorporation of these special groups into American society. The history of immigration is described as it responded to population growth, the agricultural revolution, and industrialization, and McLemore traces U.S. policy as it changed from the exclusion of individuals to the exclusion of groups, beginning with the passage of the Chinese Exclusion Act of 1882. In the years ahead, McLemore believes that reducing discrimination should be our goal, thereby providing opportunities for all individuals and groups regardless of ethnicity. —*Dona Manoukian*

MIGRATION IN WEST AFRICA: Demographic Aspects, by K.C. Zachariah and Julian Condé. New York: Oxford University Press, 1981. 130 pages. $16.95; $6.95 paper. ISBN 0-19-520186-8; 0-19-520187-6. LC 80-21352.

Until recently, what was known about human migration in West Africa was based primarily on information from a few national sample surveys and in-depth studies of small populations. In the 1970s, the data base was greatly expanded when many countries in the region took their first censuses, collecting information on internal and external migration. This World Bank study, a collaborative effort of demographers K.C. Zachariah and Julien Condé, presents findings on migration from the 1970 round of censuses for nine countries in West Africa; Gambia, Ghana, Ivory Coast, Liberia, Mali, Senegal, Sierra Leone, Togo, and Upper Volta. That migration is an important phenomenon in these countries is clear: in the mid-1970s roughly one of five individuals was either a foreign national or an internal migrant. Major chapters in the work are devoted to demographic background, international migration, internal migration, and rural-urban migration; and each chapter offers both regional and national analyses. The approach is descriptive and focuses on the volume and direction of internal and international migration as well as some socioeconomic characteristics of migrants and nonmigrants. Among other things, the study shows that patterns of international migration established in colonial times have endured, that there is a major internal flow throughout the region from the upland interior to the coast, and that rural-urban migration is largely a phenomenon of principal cities with migrants coming from both smaller towns and rural areas. Migration in West Africa is a very readable work with an impressive collection of maps, some of which graphically portray the major internal and external streams, and a statistical appendix. —*Harold Lentzner*

VAGINAL CONTRACEPTION by Marianne Jackson, Gary S. Berger, and Louis G. Keith. Boston: G. K. Hall Medical Publishers, 1981. 265 pp. $29.95. ISBN 0-8161-2211-3. LC 80-14839.

Vaginal contraception in some form has been in use since ancient times. Prior to the availability of oral contraceptives and intrauterine devices (IUDs) in the mid-1960s, vaginal contraceptives—diaphragms, spermicides and cervical caps—were very popular in the U.S. The pill and IUD replaced them almost totally, but with the late 1970s and the growth of the women's health movement, vaginal contraceptives are increasing in popularity once again. Jackson, Berger and Keith have addressed the need on the part of medical practitioners and the general public for accurate information about vaginal contraceptives and their safety, effectiveness and acceptability. The general theme of the book is informed choice. Therefore, the authors begin with a review of the health and safety risks of oral contraceptives and IUDs. This is followed by a history of vaginal contraception and a summary of their safety and health effects. The effectiveness rates of each method of vaginal contraception varies widely, thereby adding to the confusion of practitioners and potential users. Chapters 4 and 5 do much to clear up such confusion by describing the types of effectiveness studies and explaining why the findings of the many studies cannot be compared. The remaining chapters discuss acceptability of vaginal contraception and their clinical applications. *Vaginal Contraception* is designed to serve as a text or reference book for medical practitioners. However, it is written in such an understandable manner with limited medical jargon, that it will be a valuable source of information for the interested layperson as well. —*Patricia Cancellier*

RESPONSIBILITIES TO FUTURE GENERATIONS, edited by Ernest Partridge. Buffalo, N.Y.: Prometheus Books, 1981. 319 pp. $17.95; $9.95 paper. ISBN 0-87975-142-8. LC 80-84401.

This is the first collection of philosophical essays concerning the moral and ethical questions inherent in the idea of stewardship of the earth. Writers such as John Passmore, Martin Golding, Charles Hartshorne, Ronald Green, Robert Heilbroner, and Garret Hardin address such questions as: Do we have duties to future generations, and if so, what are they? Can future generations be said to have rights? Can we and should we care about future generations? What can we do? Throughout the book, the editor provides introductory comments which unify and direct the discussion. A valuable bibliography of the most important philosophical works on the duty to posterity and population policy plus a forward by Stewart Udall contribute to this unique and welcome philosophical contribution to guide the unprecedented decisions that this generation must make. —*Laura Lippman*

WHO'S WHO IN THE PEOPLE'S REPUBLIC OF CHINA, by Wolfgang Bartke. Armonk, N.Y.: M.E. Sharpe, 1981. (A publication of the Institute of Asian Affairs in Hamburg.) 729 pp. $100.00. ISBN: 0-87332-183-9. LC 80-27559.

This 6½-pound book contains concise, detailed biographies of more than 2000 of China's most notable people (out of 975 million) and is up to date as of mid-1980. Included are national and provincial leaders, military commanders, Communist Party officials, academic administrators, heads of major organizations, and diplomats listed in alphabetical order (all names are romanized), and with photographs where available (for 300 of the entries). A 120-page appendix gives detailed outlines of Chinese government organization and lists of leading institutes, scientific societies, and universities together with their administrators. **Who's Who in the People's Republic** is an epic compilation of often hard-to-get data—if you want to know the name of the president of China's national statistical society, it's here. —*Arthur Haupt*

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China's 'One-Child' Population Future

Since early 1979, China's leadership has singlemindedly concentrated on instituting the one-child family as the ultimate answer to that country's massive population growth.

In doing so, however, the Chinese have had to mount an intensive campaign to encourage "one couple, one child" in what is fundamentally a rural, less developed society. And looking to the future, projections by PRB and others suggest that such a radical, relatively sudden change in population growth patterns may cause social and economic dislocations only now beginning to be perceived by Chinese planners.

From Many Children to One Child

With the adoption of the one-child norm, China has come a long way from the pronatalist policy espoused at the time of the 1949 Communist revolution. The 1953 census counted a national population of 583 million, a cautionary sign, and for the next 20 years sporadic population control programs alternated with surges of optimistic faith in the regime's ability to handle any size population.*

In the early 1970s, though, a belief in the need for curbing population growth had become accepted by all factions of Chinese politics; and from then on until the present, population programs have continued without interruption. At first, the government began urging a two-child family, though a distinction was made between urban and rural areas where only fourth and higher births were discouraged. As a result of measures such as birth control programs and encouragement of late marriage, China succeeded in cutting its fertility drastically, from a birth rate of some 37 births per 1,000 population in the mid-1960s to probably less than 20 in the late 1970s.

Despite this progress, China's leadership continued to be concerned about the trend in absolute population numbers. China's present rate of natural increase (the surplus of births over deaths) is running at an estimated annual rate of at least 1.2 percent – very low by the standards of less developed countries. But because of China's enormous population base,

Continued on page 12

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	U.S.	All other countries
Individual	$ 25	$ 32.50
All students	5	6.50
Educator—primary/secondary	10	13.00
Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

Visiting Scholar Joins PRB

H. Yuan Tien, Professor of Sociology at Ohio State University, will join the Population Reference Bureau, Inc., as a Visiting Scholar, starting in September 1981.

During his nine-month term at PRB, Tien, who has published extensively on China, will prepare comprehensive data collected in China for publication.

Tien is the recipient of the Second Andrew W. Mellon Foundation Visiting Scholar Award, for 1981-1982.

Call for 1982-1983 Applications

Robert P. Worrall, president of PRB, has announced that mid-career population specialists interested in the Visiting Scholar Award for 1982-1983 should apply before April 1, 1982. Applicants should propose research in an area of demography or population studies that has relevance to policy making. The person selected will reside in the Washington area and work at the Bureau for one academic year; he or she will be expected to develop the input for one or more PRB publications as part of the research. Applications should be mailed to Dr. Robert P. Worrall, President, Population Reference Bureau, Inc., 1337 Connecticut Ave. N.W., Washington, D.C. 20036. □

2000: Not Quite a Millenium

Sometimes the year 2000 is treated as though it were The Millenium,* a magical goal line in the farflung future by which point, world population, among other problems, will presumably have been tamed. Thus, there was considerable interest when the UN lowered its medium-variant projection of world population in that year—from 6.199 billion in its 1978 assessment to 6.119 billion in its (as yet unpublished) 1980 assessment.

On the one hand, this drop in the projected total is significant: some 80 million, or 1.3 percent of the world total; and it does show the statistical effect of the downward movement in a number of countries' fertility rates recorded during the last few years.

But on the other hand, the downward movement of fertility, while real, is so far quite modest. And if the world as projected does not reach the 1978 projection of 6.199 billion in 2000, it will reach the total in 2001, a mere year later. (By 2000, even with lowered fertility, the world population will probably be increasing by around 90 million a year.)

The recent CELADE projections take Latin America's population out to 2025 (see story on page 3). This serves as a reminder that beyond 2000 lie years during which population in much of the world will still likely be very much on the increase. 2000, once the symbol of some futuristic Millenium, is now uncomfortably close. All signs indicate that it is going to be just like any other year (. . . 1998, 1999, 2000, 2001, 2002. . .), merely another kilometer marker on the road of human history. For some decades beyond that date, the ultimate resolution of world population growth may still be a question mark. □

*Defined by the dictionary as a 1,000th anniversary; or (from biblical references) a prophesied ideal society somewhere in the future.

ORT: The 8-Cent Dose That Can Save Millions of Lives

By Judy Felt

Diarrhea is one of the world's leading killers. Sudden dehydration and loss of fluids and essential mineral salts resulting from diarrhea contribute to the death of as many as one out of every 15 children born in developing countries before they reach their fifth birthday.

Diarrhea is endemic in many areas. *Population Reports*, in its issue on oral rehydration therapy, notes a survey from rural Punjab, India, where on any given day, 16 percent of the children in a village are suffering from diarrhea. Even for the many who survive, diarrhea is often responsible for growth and development retardation due to the malnutrition that can be both the result and cause of the disease.

This is happening even though simple, cheap therapy exists that could substantially cut the tragic death toll: replacement of the fluids and salts as rapidly as they are lost while the disease causing the diarrhea (such as the bacterial disease cholera and little known viruses that cannot be treated by antibiotics) runs its course.

This therapy is oral rehydration, which can cost as little as 8 cents a dose, or less if it is correctly mixed "from scratch" from locally available ingredients. The importance of the replacement of fluids has been known since the 1800s, but oral administration has generally taken a back seat to intravenous therapy (IV). Indeed, theoretically speaking, IV is the best treatment, introducing the needed fluid directly into the body and bypassing the weakened bowel, but most developing countries are capable of treating only a very small percentage of the dehydration cases with IV apparatus.

When oral rehydration first began, only salt was added to the water, then bicarbonate (to combat acidosis). In the 1940s, the value of potassium was discovered. Sugar was first included in order to make the solution more palatable, but in the mid-1960s it was discovered that glucose was really essential to make the oral rehydration effective. The impaired function of the affected bowel not only produces diarrhea, but also prevents normal intake of essential nutrients and minerals. The body's absorption of glucose, however, is usually not hampered and when glucose is absorbed it takes sodium and water with it.

In the late 1960s it was shown that oral rehydration therapy (ORT) could substantially help patients (ones able to take oral treatment) from becoming critically dehydrated; and the large cholera epidemics in Bangladesh, in the early 1970s, further proved that ORT could reduce mortality in situations where medical treatment is too limited to reach even a small percentage who need it. Through the 1970s, interest grew in ORT as a possible stopgap measure that could be integrated on a community level, perhaps handled through already existing community based distribution systems of health care, nutrition, and family planning.

In fall 1978, the World Health Organization (WHO) embarked on a campaign to make ORT available to all interested countries. The Diarrheal Diseases Control Programme, which is now receiving high priority, acts as a donor and resource center, producing guidelines for in-country programs and working closely with the United Nations Children's Fund (UNICEF) in their programs to encourage local production of oral rehydration salts and provide packets directly to over 70 countries. The UNFPA and USAID also have programs aimed at helping countries integrate ORT into their health care delivery systems. Their common objective is to reach 25 percent of all potentially affected infants by 1983.

The major obstacle is the lack of resources. To meet a modest ultimate goal of six packets per child under age 5 per year to all developing countries (except China) would require 2.4 billion packets annually. UNICEF is at present providing 24 million, only 1 percent of the requirement. Even if enough could be made, developing countries cannot afford to buy them (although they only cost about 8 cents per packet), and funds to donate them are limited. Then there must be the proper instruction as to correct usage.

One alternative to the prepackaged solution is to train local health workers to assist in home preparation of a solution consisting only of locally available materials, such as sugar and salt. One problem with this approach is that thus far, most efforts on a local level to insure consistent measuring have not been successful. Some studies showed that without equipment such as a measuring spoon, the solutions were often too strong (too much salt, and dangerous) or too weak (too little salt, and ineffective). Moreover, many medical workers are concerned that this solution does not treat acidosis or potassium loss, and there is some question as to whether it is very effective in treating dehydration.

The WHO program emphasizes that nutrition during diarrhea is vital. Continued breastfeeding is essential, and if the child is weaned, a diluted formula or normal foods must still

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CELADE: Latin America Just Entering 'Demographic Transition'

Latin America's population could reach 845 million by 2025, according to new projections by the Centro Latino Americano de Demografia (CELADE), based in Santiago, Chile.

These projections, appearing in CELADE's *Boletin Demografico* No. 27, represent the first examination CELADE has made of the prospects for population growth beyond 2000.

As huge as this projection is (more than 2⅓ times the present estimated Latin American population of 353 million), it takes into account recently reported fertility declines in the region, and additional declines projected for the future.

From a current estimated birth rate of 33 per 1,000 population, the Latin American birth rate is projected by CELADE to drop to around 27 in 2000 and to 22 by 2025. Leading this decline among major nations would be Colombia and Mexico, both with very active family planning programs.

But what the CELADE projections show is, that although some countries may have achieved modest fertility declines, other, poorer nations in the hemisphere are just now entering the "demographic transition" from high to low fertility so that the bulk of their potential growth – the difference between annual births and deaths – is still ahead of them. (Peru, now at 18 million, is projected to triple its population by 2025.) And the momentum of growth produced by large numbers of persons in the young ages, plus continuing mortality decline caused by better health measures, will almost surely mean the adding of 10 to 12 million persons annually to Latin America's population between now and 2025. □

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be offered in addition to the ORT. Although the intestinal function is weakened, it does usually absorb some nutrients, and even if the feeding increases the diarrheal episodes; on balance, the child receives more nutrition and total weight loss is less than if no feeding is done. Feeding during diarrhea reduces the incidence of malnutrition, the deadly partner to diarrhea in causing deaths in children under 5.

Population Reports points out that ORT programs have many features in common with family planning programs. They can be integrated into existing health care systems, and they are both trying to reach primarily women of childbearing years. For this reason, some countries are linking ORT with their family planning and maternal and child health programs. WHO and other donor organizations are doing everything that they can to encourage this integration, believing it to be the only way that ORT can be made available on the village level.

In the long run, only modern sanitation, clean water, better nutrition, and improved living conditions can reduce the incidence of diarrhea among infants and children, but in the short run, the scientific knowledge and the practical technology embodied in ORT already exist to prevent most diarrheal deaths. □

References

Parker, R.L., et. al. Oral rehydration therapy (ORT) for childhood diarrhea. *Population Reports*, Series L., No. 2. Population Information Program, Nov.-Dec. 1980. 75 pages.

Mahalanabis, D., Merson, M.H., and Barua, D. Oral rehydration therapy-recent advances. *World Health Forum* 1981, 2(2), 245-249.

Recipe for Rehydration

The oral rehydration solution now recommended by the World Health Organization (WHO), as listed in *Population Reports*:

sodium chloride (table salt)	3.5 grams
sodium bicarbonate (baking soda)	2.5 grams
potassium chloride	1.5 grams
glucose (or sugar)	20 grams
water	1.0 liter

These dry ingredients are now distributed internationally by the United Nations Children's Fund (UNICEF) in packets (to be mixed with water) labeled Oral Rehydration Salts (ORS).

positions/professionals

Medical Director, Planned Parenthood Alameda/San Francisco, (part-time position), to be responsible for implementation, monitoring, and evaluation of medical programs in accordance with Board policy in Planned Parenthood organization with five clinics and $3 million annual budget; some direct clinical activities. *Qualifications:* Qualified M.D. licensed in California, Ob-Gyn Board eligible or certified. *Salary:* $30,000-$35,000 part-time. *Contact by Sept. 30:* Mary Luke, Acting Director, Planned Parenthood Alameda/San Francisco, 1660 Bush St., San Francisco, Ca. 94109.

Groups Back 'Global 2000' Views

When the *Global 2000 Report to the President* was released (see INTERCOM, August 1980), it marked the first time that an important U.S. government panel had, after in-depth analysis, reached the same conclusions as many population and environmental groups: that serious problems are likely to develop as the human population and technology expand, and that these problems will cause less human suffering if they are perceived beforehand and minimized by careful management and intelligent policymaking.

The groups also agreed with the recommendations that the Report presented: that greater forecasting capability was needed so that potential problems can be better pinpointed, that there must be greater commitment on the part of the government and the people toward developing this capability, and that based on this capability, a suitable policy must be formulated to prevent irreversible damage to the human living environment.

The nonprofit organizations working individually in support of the recommendations soon realized that they had many common goals. So last spring the Global Tomorrow Coalition was born (see INTERCOM, June 1981). The Coalition has quickly become active, encouraging policymakers who agree that the issues raised in the Report are important, assisting them in influencing the thinking of other policymakers, and letting them know of the existence of broad-based support from both population and environmental movements for the conclusions presented in the Report. (With 49 original members of the Coalition, reporting a combined national membership estimated at 5 million, the constituency is sizable.)

The Coalition has already formed six active task forces: Biological Diversity, Education and Information, Global Pollution, Long-Range Analysis, Population, and Tropical

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Drawing by S. Harris

"We programmed it to simulate living conditions in the Year 2000, and it's become hysterical."

U.S. Tries Again with New Proposals to Control Immigration

After delays and some trepidation, a Reagan administration task force in late July announced proposals for revising and rationalizing U.S. immigration policy and coming to grips with the question of illegal immigration. Like the not-dissimilar Carter administration proposals before it, the Reagan plan has aroused interest and protest. And while Congress shows growing interest in doing something about illegal immigration, and polls show that Americans want something done, signs were unclear last month whether the Reagan proposals would become law, and whether, if law, they would change the present inactivity, which no one professes to like but which is the U.S.'s de facto immigration policy.

Employer sanctions. Like the Carter plan, the Reagan plan proposes to make knowingly hiring an illegal alien a civil crime, and makes it punishable by fines up to $1,000 per employee. Employers would have to see two forms of identification from prospective employees, who would have to sign a form swearing they were U.S. citizens.

No forgery-proof ID. The Reagan task force, headed by Attorney General William French Smith, recommended that a counterfeit-resistant Social Security card be issued as a proof of a right to be in the country, but this move was vetoed by the Reagan Cabinet, which had final approval of the immigration plan. Those against the ID argued that it would cost $2 billion to set up; that a national ID card ran against the American grain; and that however forgery-proof the card was, one could probably use forged proof of legal residence to apply for it. Those favoring the ID, on the other hand, found employer sanctions toothless without some sure form of identification. (The employer could always say he was honestly fooled by other citizenship proofs.) Some critics thought the employer sanctions intentionally toothless, and an implicit encouragement of employment of illegals.

Amnesty. The new plan calls for amnesty for undocumented aliens who entered the U.S. illegally before Jan. 1, 1980. They would be placed in a "transient" status for 10 years and then could become permanent residents. (With legal aliens, this process currently takes five years.) They could send their children to public school. The long, 10-year wait is intended to make the absorption of undocumented aliens into the U.S. population proceed gradually.

Guest workers. To channel the migration wave into legal paths, the Reagan administration proposes an experimental two-year guest worker program whereby 50,000 Mexican workers a year would be granted temporary visas. This would be similar to the bracero program of the early 1960s and would probably result in an increase in the availability of farm labor.

More rigorous enforcement. The new plan would allocate some $75 million more to the Immigration and Naturalization Service, to increase border surveillance. The administration also wants to change the law so that the Coast Guard can intercept ships on the high seas that may be carrying refugees from Cuba or Haiti so that the flow can be controlled.

Increase in quotas. The proposal calls for raising the annual limit of legal immigration from 270,000 to 310,000, with the increase allotted to Mexico and Canada. This follows the President's statement that "we have a special relationship with our closest neighbors, Canada and Mexico. Our immigration policy should reflect this relationship."

At present, the Reagan plan is just a statement, delivered to the press by Attorney General Smith. It is expected that the administration will propose legislation and submit its plan to Congress by October 1981. What will happen to it after that is uncertain. After all, in 1977 President Carter proposed a package plan for dealing with the problem, a plan which got nowhere. Carter's amnesty deadline was Jan. 1, 1977, a date that has receded into the past, while an unknown number of additional undocumented aliens have arrived.... □

INS Workers Hold Protests

Several hundred employees of the U.S. Immigration and Naturalization Service (INS) held demonstrations Aug. 21 in several large cities where the immigration service has district offices, including Washington, Chicago, San Diego, New York, and Los Angeles.

Michael G. Harpold, president of the Immigration and Naturalization Service Council, which represents more than 5,000 of the 10,000 INS employees, said that the protests were meant to "focus attention on the problems created by uncontrolled immigration and the Reagan administration's failure to properly direct the agency and its employees." The employees are concerned about general understaffing and underfunding, and a 1982 budget which, despite proposals for additional funding, will probably lead to a net reduction in personnel.

The agency has been under the direction of acting commissioners since 1979, and the fact that Reagan has not as yet nominated anyone to serve as a commissioner has disappointed employees, Harpold said. The INS press office reports that the President plans to nominate Norman Braman, a Miami businessman, to be commissioner as soon as the new session of Congress opens Sept. 9. □

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Forests, and are at present seeking to activate five more; Food and Agriculture, Renewable Energy and Conservation, Coastal and Marine Resources, Water Resources, and Sustainable Development. The Coalition welcomes participation by any interested persons either within the Coalition itself, or on any of its task forces.

For more information, contact the Global Tomorrow Coalition, Inc., 1525 New Hampshire Avenue, N.W. Washington, D.C. 20036, or call (202)328-8222.

PRB's Summary of Global 2000 Hearings

A new Executive Summary, "The Global 2000 Report and Implications for the U.S." has been released by PRB. The Summary outlines important points and questions raised during a hearing conducted by the Subcommittee on Census and Population of the U.S. House of Representatives Committee on Post Office and Civil Service, held on May 12, 1981, and chaired by Rep. Robert Garcia (D-N.Y.). The hearing addressed not only the conclusions and recommendations of the Report, but also the problems faced during the preparation of the Report, with suggestions for improving both the process and product of any future similar exercise by government agencies.

Copies of the Executive Summary are available from PRB for $1.00 (to cover handling and postage). Send orders with remittance to: PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013. □

PRB Study Traces Trends

Breastfeeding Shows Little Evidence of Decline in Third World

PRB has just launched a new publication on what has become a controversial topic. *Breast-feeding in the Developing World: Current Patterns and Implications for Future Trends*, by Mary Mederios Kent, is the second in a series of reports on the World Fertility Survey being prepared by PRB's Compilation and Analysis of Population Data project. The World Fertility Surveys provide some of the most comprehensive data to date on breastfeeding practices. Although declines in breastfeeding have been linked to infant formula promotion in some Third World countries, prompting the World Health Organization to propose an international infant formula marketing code, there is as yet little empirical evidence of a widescale abandonment of breastfeeding. This report shows that the vast majority of women in 19 Asian, Latin American and African countries still choose to nurse their babies. The percentage of children breastfed ranges from 98 percent in Bangladesh and Nepal to 74 percent in Malaysia. Among the Asian and African countries, children are not weaned until between one and two years of age. The Latin American and Caribbean mothers are somewhat less likely to breastfeed, and wean their children much sooner, at five to nine months of age.

But the World Fertility Survey data do show signs that breastfeeding may have declined among subgroups of the populations in these countries. Younger, more educated women, and women from urban settings are less likely to nurse their babies; when they do breastfeed it is for fewer months. Also, general indices of socioeconomic development, such as per capita GNP, infant mortality, and nonagricultural labor force, show that women in countries at the lowest end of the development scale, like Bangladesh and Pakistan, tend to practice the traditional, prolonged breastfeeding much more commonly than women in countries with better socioeconomic conditions, like Costa Rica. These findings suggest that breastfeeding will decline as these countries modernize and urbanize, and it will decline more quickly among certain groups of women.

The report also outlines the nutritional and health benefits of breastfeeding to children and the link between lactation and postpartum infertility in women. Declines in breastfeeding could have a real nutritional cost to children and can lead to a greater incidence of intestinal disease, especially among children living under unsanitary conditions. These declines can also mean a loss of up to 15 months of natural "contraceptive" protection for mothers, which, if not countered by increased use of efficient family planning methods, can result in higher birth rates.

Single copies of this report are free from PRB; for mail orders there is a $1.00 handling charge. Bulk order handling charges are available on request. Write: PRB, Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036. □

Title X Escapes Block Grant Status

As part of its effort to put programs presently administered by the federal govenment under state jurisdiction, the Reagan administration has succeeded in getting Congress to pass legislation changing many health and social-service programs from categorical programs to block grants. (The block grants would be given to the state governments to be spent within a broad subject area, e.g., preventive health services, with little or no accountability to the federal government.)

But in July Title X, covering family planning services, escaped. While the administration had wanted to put family planning into the preventive health block grant, and such a bill gained Senate passage, a similar House recommendation became stalled in committee while the rest of the Reagan budget was being passed. An interim recommendation by the Democratic chairman, Rep. John D. Dingell (D-Mich.), which contained a Title X reauthorization, remained in force, and passed the House automatically as part of the overall appropriation bill, probably to the surprise of some voting yea.

Later in the month, Title X also survived the conference committee which met to reconcile differences between the House and Senate health services bills. In line with other government funding cuts, it was cut by 20 percent from 1981 (funding ceiling for FY 1982: $130 million), but remained unchanged as to purpose and federal authority. □

grants/contracts

• Urban Institute, Washington, D.C.: **Evaluation of Adolescent Pregnancy Programs**. M.R. Burt, et al., Dept. of Social Services Research, investigators. The contract will develop a uniform evaluation system for the adolescent pregnancy programs funded in FY 1980 by the Office of Adolescent Pregnancy Programs, Department of Health and Human Services. The evaluation approach rests on devising a common set of indicators which measure the programs' attainment of the following goals: to prevent unwanted pregnancies, to provide care for pregnant adolescents, to assist adolescent parents to become productive and independent contributors to community life, to expand and improve comprehensive services, and to provide better coordination, integration and innovation in the delivery of such services. A common data reporting format will be developed and tested, to help measure performance at three levels: (1) implementation, (2) process and (3) outcome. (Funded by U.S. Dept. of HHS, Office of the Assistant Secretary for Planning & Evaluation, FY 1980 $210,000.)

• Columbia University. Barnard College, School of Liberal Arts, New York, N.Y.: **A Women's College as an Agent of Socialization for Women's Roles**, M. Komarovsky, Dept. of Sociology, investigator. This study will examine the influence of college upon a woman's self-image; the relative salience of work, marriage, and motherhood in her preferred adult lifestyle; her choice of occupation, whether traditional for women or innovative; her perception and her ideals of femininity and masculinity: and her ideology as to gender roles in society. (Funded by U.S. Dept. of Education, Nat. Inst. of Education, FY 1980 $52,661.)

• Temple University, Inst. for Survey Research, Philadelphia, Pennsylvania: **Reproductive Behavior and Fertility Among Unmarried Women**, K. Tanfer, investigator. The study will focus on a national random sample of 600 white and 400 black unmarried women, 20-29 years old, in order to study the factors associated with their sexual and reproductive behavior and contraceptive practices. Special attention will be given to such matters as: appreciation of and attitudes toward risks of pregnancy; circumstances surrounding onset and level of sexual activity; factors influencing efficacy and regularity of use of the various contraceptive practices; and social, psychological, and economic consequences of premarital pregnancy, especially in relation to subsequent fertility regulation. (Funded by the U.S. Dept. of HHS, Nat. Inst, of Child health and Human Dev. FY 1980 $298,895.)

World Economy Grappling with '80s' Recession, Inflation

In the past decade the world economy has received shock after shock – major increases in oil prices, slow economic growth and rapid inflation, the breakdown of the fixed-exchange-rate system, the steep rise in developing countries' debt.

In its just-published *World Development Report 1981*, the World Bank concentrates on the past and prospects of the world economy. While many countries have managed to weather the 1970s, the big losers continued to be the low-income developing countries (those with a 1979 gross national product [GNP] per person of $370 or below). There, per capita incomes rose by less than one-half, from $170 (1980 dollars) in 1950 to $250 in 1980; a gain of only $80 per person in 30 years (some of the poorer countries actually had declining per capita incomes during the 1970s). The Report does note however that "in the great majority of them, significant gains have nonetheless been made in combating illiteracy, in improving education and health, in lowering mortality and fertility."

While the low-income developing countries made little or no progress, the middle-income developing countries (those with a 1979 GNP per person above $370) fared better in the 1970s than generally expected. "Among the middle-income countries, GNP per person has risen almost two-and-a-half times in real terms during the past 30 years, from some $640 in 1950 (1980 dollars) to $1,580 in 1980." (By contrast, during the same period (1950-1980), GNP per person in the industrialized world increased by over $6,500.)

The Report particularly notes recent positive developments in China, where the poorest of its population is "far better off in terms of basic needs than their counterparts in most other poor countries," and India, which in the 1970s became self-sufficient in food production.

"The greatest success of the 1970s was the export performance of the middle-income, and especially the semi-industrial countries – success that is likely to continue provided the industrial economies do not stagnate or become more protectionist." Increased revenue from exports has been the chief weapon all countries have had to develop against the "shock" effects of increased oil prices. Industrialized countries had the advantage because of their broad manufacturing base, but most developing countries have a small manufacturing base, not easily diversified, and many chiefly export raw materials and commodities, such as coffee and mineral ores. When worldwide recession drove the price of these commodies down, countries borrowed heavily and sometimes unwisely to cover the deficit and now find that their options for future borrowing fewer as they face the 1980s.

The Report offers both a high-case and a low-case projection for the 1980s using two scenarios based on what is considered a plausible range of developments. "But even under the higher scenario, average per capita incomes are expected to grow by only 1.8 percent a year in the low-income oil importers, compared to 3.4 percent in the middle-income oil importers and 3.1 percent a year in the industrial countries.

"Both the relative and the absolute gaps between the richest and poorest countries will widen in the years ahead, including the gap between the middle- and low-income developing countries. If nothing better than the lower scenario can be achieved, the number of people living in absolute poverty, now some 750 million, will increase by about 100 million people."

The 1980s have started off very slowly, with recession and inflation still present, but the Report suggests that the higher scenario will more likely be reached if:

- all countries, especially industrialized and oil exporting, take steps to master inflation, refrain from imposing additional trade barriers, and in fact ease present constraints on free trade, to enable the developing countries to expand their exports and decrease their trade deficits.
- measures are taken which will control the demand for oil, thereby confining the projected real increase in oil pricing over the next decade to an annual average of 3 percent.
- alternative energy sources are sought, developed, and combined with a general energy conservation program.
- loans and aid are made available to low-income countries by industrialized and oil exporting countries on a much larger scale, so that the flow of capital to needed areas increases.
- developing countries "maintain their domestic savings to at least 1980 levels and improve the efficiency of their use of capital" including borrowed capital, so that productive capacity can be increased and exports expanded, decreasing trade deficits.
- international financial institutions continue to develop their key role in facilitating international flows of commercial capital.
- "industrial country growth averages 0.3 percent a year higher in 1980-90 than in the stagflation years 1970-80, or a near 4 percent annual growth in the second half of the 1980s."

The Bank on Population

The Report alters its projected 2000 world population only slightly, from the 1980 projection of 6.029 billion to 6.043 billion. It reemphasizes the role that a large population growth rate plays in continuing poverty and slow development in the poorer countries. While birth rates continue to go down, this is offset by a larger decrease in the death rate, necessitating even stronger actions by governments if growth rates are to fall.

The Report asserts that the hardships will not "necessarily be confined to developing countries. A world of 1.5 billion people in 1900 grew to one of 4 billion by 1975 and will exceed 6 billion by the end of this century. The pressures this will bring to every country will be considerable, since all are affected by world demand for food and for finite resources, and by the dangers to clean air and oceans. Failure to slow population growth substantially by the end of this century means that rapid population growth will continue in the next, and lead to an ultimate world population of 11 billion or more instead of the 8 billion at which it could be stabilized. Any residual belief that industrial countries can somehow immunize themselves from the problems faced in the developing world will then be painfully exposed." □

demographer's page

Charles H. Teller is a sociologist demographer at the Pan American Health Organization in Washington, D.C. Previously, he served as the senior sociologist demographer responsible for the creation and development of the Population and Development Program of PAHO's Nutrition Institute for Central America and Panama (INCAP). In September 1981 he becomes director of the International Nutrition Unit, Office of International Health, U.S. Dept. of Health and Human Services.

The Demography of Malnutrition in Latin America

by Charles H. Teller

"Just too many mouths to feed" was a familiar refrain among some of my undergraduate students at Cornell and Texas, and from some of the masters of public health (mostly medical) students whom I taught at INCAP. It was the *Race between Population and Food Supply in Latin America,*[1] as demographer T.L. Smith entitled his book.

On the other hand, some of our international development and social science colleagues in Central America thought we were wasting our time working on excessively complex solutions to the malnutrition problem. "Just give the people more food" was their solution.

But the opinions of Central American *campesinos*, as expressed in our interviews and questionnaires on many occasions reveal a much more complex reality: While less children might have been better, they needed all of them at planting and harvesting (and to feed them in their old age, too). Anyway, "each child is born with a loaf of bread under his arm." Moreover, although there is less land to pass on to their children, a large population means that their community will receive more services, and be more modern and more lively.

Having worked in the Central American population and health field for most of the past 14 years, I think we have come to learn important lessons about the complexity of the relationship of population to economic development and social change. The six countries of Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama comprise the region with the world's highest annual rates of natural increase during the 1970s (over 3 percent), and now have a total population of around 25 million. Mortality rates that fell in the 1960s and early 1970s have leveled off in the four largest countries of the region (Nicaragua, Honduras, Guatemala, and El Salvador), while their fertility rates remained high (fertility fell in Costa Rica and Panama). In these four countries, which are also the poorest and most rapidly growing, the winds of change, stifled for many years, have been blowing strong, with expected direct implications for the demographic and nutrition situation.

While the demographic transition may have been momentarily detained, the socio-political and economic changes have been accelerating. Inflation and energy scarcity, technological transformation of the agricultural sector, increasing concentration of land and maldistribution of income have led to increasing pauperization of the majority of the population, as evidenced by high rates of underemployment, landlessness, malnutrition, and declining real income. National employment surveys in Central America are now confirming the fact that the great majority of families do not have sufficient real income to cover their basic necessities. Rigid social structures are being challenged, and in three countries, civil wars have broken out (Nicaragua's having ended in 1979).

Demographers are supposed to be able to contribute to the field of social and economic development, because they specialize in using relatively hard, quantitative indicators that can be both descriptive and predictive. In our experience in the areas of food, nutrition, and health development planning, demographic expertise has been found useful in all crucial phases: diagnostic, planning, programming, implementation, and evaluation.[2] Yet there has been local resistance to the participation of international population experts in Central America, and with much good reason. Demographers came in talking more like those simplistic students or orthodox social scientists and were not listening to the collective wisdom expressed by the "pueblo" (the people). We have, I think, the scientific obligation to distinguish better between the fallacies of created myth and the truth of conventional wisdom.

Lessons from the 1970s

There are about three lessons that I think some of us have learned in working in the population, health, and nutrition planning fields in Latin America.

1. *A systems approach to the population, nutrition, and development interrelationship is more useful and acceptable for policy than a unidimensional approach.*

This approach implies that the fundamental causes of both undernutrition and overpopulation problems are embedded in a country's social, political, and economic structure, and manifested at all operational levels – individual, family, community, regional, national, and international. In the design of analytic frameworks containing population, nutrition, and development interrelationships, greater emphasis should be placed on the problematic demographic structures and less on the traditional process variables of fertility, mortality, or migration. This is particularly true in countries without explicit population policies (i.e., nearly all of Latin America).

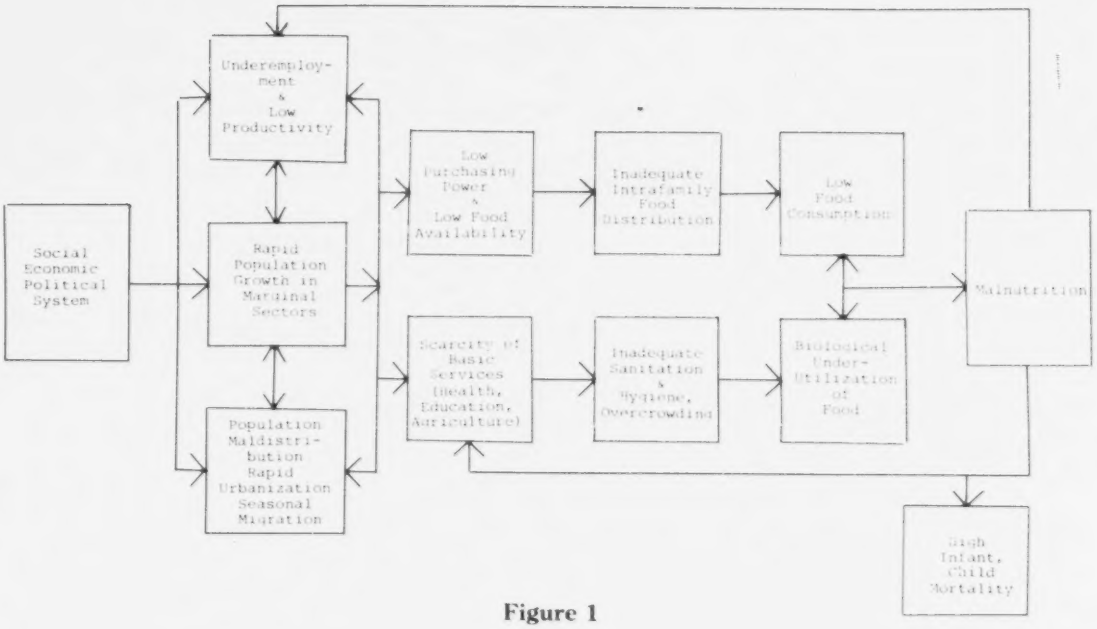

Figure 1

A model using such demographic structures was developed at INCAP for the Interamerican Seminar on the Population-Nutrition-Socioeconomic Development Interrelationship[3] (see Figure 1). Demographic structures such as underemployment, growth of marginal population sectors, and rapid urbanization are developmental issues that are well understood and accepted as important social problems in nearly all Five-Year Development Plans. Once these structures have been agreed on, their determinants and consequences can be seriously analyzed.

In the figure, for example, the unidimensional relationship of rapid population growth, and malnutrition is seen in its broader productive, distributional, environmental, and health service context. The unidimensional relationship of rapid population growth and food availability can be seen as conditioned by the geographic location and purchasing power of the family. The favorite issues of demographers – high fertility, female labor force participation, teenage pregnancy – are seen as secondary by these poor countries when confronting their major development issues.

2. *Continued high prevalence of child malnutrition increases the interval between child mortality decline and fertility decline.*

Infant and child mortality rates in Central America and Panama declined between 1950 and 1970, but during the 1970s they seem to have leveled out in all six countries, and are still at high levels, except in Costa Rica and Panama (see Table 1). In the other four countries, both malnutrition and fertility rates have remained high, and even in some cases, increased.[4] The population growth rates have increased in the past 20 years because of the decline in mortality. The prevalence of second and third degree protein-calorie malnutrition* seems to have increased in the rural areas through the mechanism (hypothesized as "socio-biological capillary action"[5]) that pushed "saved" high-risk children from death statistics into the malnutrition categories. At the same time, the fatality rate of malnourished children seems to be declining.

3. *Family planning programs are more acceptable when aimed at risk reduction rather than population reduction.*

All countries whether with or without an explicit policy of population reduction, have a policy to reduce maternal and child mortality and morbidity. The International Conference on Primary Health Care at Alma Ata in 1978 stipulated family planning as one of the fundamental components, and all Latin American countries are dedicated to the implementation of the declaration of Alta Ata. Although research evidence in Central America has not unequivocably shown a direct connection between large family size and malnutrition, it has demonstrated the negative consequences of short birth spacing and early and late pregnancies.[6] A birth interval of under 12-18 months is related to greater maternal resource depletion, lower birth weight, shorter breast feeding period, higher infant mortality, and higher undernutrition. Pregnancies to

Continued on next page

*Malnutrition, measured by the Gomez classification, refers to the adequacy of a child's body weight as compared to the desirable standard for his or her age and sex. Second degree is 60-74 percent of the standard; third degree is below 60 percent.

Continued from preceding page

women under 16 years of age in the Caribbean have been related to similar negative maternal and child effects.

Demographic Dynamics for Nutrition Planning

We are now ready to make some general statements concerning the demographic dynamics of malnutrition that should be taken into account in food and nutrition planning and programs in Central America and Panama.

1. *The absolute number of malnourished children in Central America has increased since 1965.*

The most straightforward and presently acceptable way for Central American governments to evaluate changes in the nutritional situation is through direct anthromorphic measures of child undernutrition (moderate or severe retardation in growth by age category).

The nutritional surveys of 1965-1967 carried out by six countries of the Isthmus provide a convincing baseline for measuring subsequent progress. In Table 2 we compare results of those national surveys carried out in small urban and accessible rural areas with less systematic but generally comparable surveys in similar areas 10 years later. These data suggest that the number of malnourished children under 5 increased by two-thirds overall, and in all countries except Costa Rica between 1965-1967 and 1974-1976.[4] Subsequent individual studies in El Salvador (1977), Costa Rica (1978), Nicaragua (1978), Honduras (1978-1979), Guatemala (1979-1980), and Panama (1980) suggest that while the prevalence, particularly in the urban areas, may have declined somewhat, the numbers of second and third degree malnourished children continue to rise in the four poorest countries with rapid population growth.

The point here is that these countries have recognized, in their Food and Nutrition Plans, the fact that enormous investments will have to be made just so that the number of malnourished children does not increase, let alone decrease.

2. *Demographic changes have contributed to the widening of the nutrition gap between the urban and rural populations.*

Recent national studies, particularly in Guatemala, Panama, El Salvador, and Costa Rica, have brought further evidence to bear on the increasing nutrition gap between larger urban or metropolitan areas and the small urban and rural areas. Aside from other social and economic reasons, there seem to be three types of demographic dynamics that have been contributing to this socio-geographic inequality:

(a) Migration selectivity. It is clear that the better-off, lower risk, lower fertility families abandon the rural areas at higher rates than their poorer cousins.

(b) Fertility selectivity. The fertility of the rural families is often twice as high as the urban families. The spacing and timing mechanisms are more conducive to better health and nutrition status in the urban areas.

(c) Mortality transition. As discussed earlier, child mortality has declined much more than child malnutrition. Public health efforts in mortality prevention have been able to penetrate the rural areas more successful-

Table 1
Trends in Infant and Child Mortality, Central America and Panama, 1960 to Present

		Countries in ascending order of moderate-severe malnutrition levels					
Mortality indicators		Costa Rica	Panama	Nicaragua	El Salvador	Honduras	Guatemala
Infant mortality rate	1960	68.6	56.9	–	107.5	–	91.8
	1965	69.3	44.7	120.0	–	–	92.6
	1970	61.5	40.5	–	95-120[a]	117.0	87.1
	1975	37.9	31.0	115.0	–	103.0	81.1
	1978	22.3	24.4	121.0[b]	–	–	69.2
Child mortality rate	1960	6.9	9.3	–	17.7	–	29.8
	1965	6.0	7.5	–	15.0	–	33.5
	1970	4.6	7.5	–	13.0	19.3	27.0
	1975	2.0	3.3	–	–	–	21.7
Deaths 0-4 yrs. of total deaths (%)	1960	53.4	43.0	50.4	52.1	44.5	51.0
	1965	52.1	37.8	38.4	50.3	41.8	51.7
	1970	38.1	35.3	39.8	43.7	38.5	46.0
	1975	27.6	27.3	32.5	38.6	39.1	45.2

Definitions. Infant mortality rate: deaths to infants under age 1 per 1,000 live births in a given year. Child mortality rate: deaths of children aged 1-4 per 1,000 children in that age group in a given year.
Sources: National Vital Statistics (Costa Rica, Panama, Guatemala): CELADE (Nicaragua, El Salvador, Honduras).
[a]1970-1971.
[b]1979.

ly than efforts to eradicate malnutrition. For the latter to succeed, more thorough rural development programs will be necessary.

3. *Certain subpopulation groups have been found to have significantly greater risks of malnutrition in children.*

Various studies using similar methodologies have found that seasonal migrants, female-headed, landless or nearly landless, and underemployed laborer families are at the highest risk in Central America.

It is obvious that national efforts to combat malnutrition must take into account these demographic factors in order to target the food, nutrition and health programs and evaluate the effects on the so-called target populations.

Conclusions

International organizations are increasingly interested in strengthening the national capacity for planning, monitoring, and evaluating development programs. What I have tried to emphasize here is the vital role demographic data and analysis play in quantifying the magnitude, distribution, and characterization of social problems that are deemed high priority in the development plans of poor countries.

It is usually more effective to avoid simplistic, unidimensional analyses that isolate demographic variables from the whole socioeconomic and political matrix of development. We have observed that the efforts needed to combat malnutrition are, like those to reduce fertility, more development-dependent than were the mortality-reducing efforts of the 1950s and 1960s.

For the demographic and epidemiological transitions to break out of their stagnation and continue on their expected "downward" course in the rest of Central America, significant reduction in malnutrition and further reduction of child mortality, and subsequently in fertility, will probably depend upon more thorough (and often violent) societal changes, particularly in the land, employment, food, and health systems. The question is, how long, and at what cost in human lives, will it take for the majority of the Central American population to have access to the minimum adequate diet and basic health services?

Here in the cradle of Mayan civilization, where maize (corn) was developed, the poor are hungry. The post-1967-earthquake reconstruction efforts in the region summarized the urgent need to motivate the populace toward rural development with the slogan: "Hombres de maize: ¡levantate! [Men of corn: pull yourselves up!]" □

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[6]Recently confirmed in preliminary findings from the INCAP/RAND Birth Interval Study.

Table 2
Trends in the Prevalence of Malnutrition[a] and the Numbers of Malnourished Children 0 to 4 Years Old in Central America and Panama, 1965-1967 and 1974-1976

	1965-1967		1974-1976		Increase from 1965 to 1975	
Country	%	No. (1,000s)	%	No. (1,000s)	%	No. (1,000s)
Guatemala	32.4	281	38.1	421	50.1	141
El Salvador	26.0	148	38.0	277	87.0	129
Honduras	29.5	124	38.0	224	79.9	99
Nicaragua	15.0	50	22.6	102	105.2	52
Costa Rica	13.7	38	12.3	33	13.2	−5
Panama	11.9	27	21.5	57	116.2	31
Total	24.9	668	32.9	1,114	66.8	446

Source: INCAP (1978)
[a]See footnote in text for definition of malnutrition.

China's 'One-Child' Future

Continued from page 1

estimated at 985 million as of mid-1981),** it is growing by 1 million persons every month. The Chinese now estimate the country's total fertility rate to be 2.3 children per woman, which is around replacement level. This figure is derived from survey data as reported, and many population specialists feel it could be closer to 3.0.

A small group of economists and demographers raised serious questions about further population increases having adverse implications for agricultural self-sufficiency, investment, job creation, resources, education costs, and environmental quality. And it was calculated that the two-child policy would not halt population growth soon enough.

The leadership decided that fertility must drop much lower—well below replacement level—for at least an intermediate period, so that the Chinese population would reach zero population growth by 2000 or not long thereafter. They wanted the population to peak at no more than 1.2 billion, and then drop to some undetermined lower level—perhaps 600 million to 1 billion.

To achieve these goals, they realized, a one-child policy would have to be established—and established as soon as possible. (It was not expected that henceforth everyone would automatically have one-child families, but the campaign's effect would be to lower fertility well below replacement level).

Reportedly the Chinese government first began to push couples to sign a one-child pledge in 1979. Gradually the program became more widespread and forceful, and in the summer of 1980 was the subject of heated debate in the National People's Congress. There it was opposed by members from rural areas, who argued that old age security would be jeopardized, particularly if a family's "one child" turned out to be a daughter, and by the Chinese Army, which was concerned about having a sufficient number of males to recruit in the future.

Nonetheless, in September 1980 the Central Committee of the Communist Party wrote an open letter to party members urging them to take the lead in establishing a national one-child norm. And outgoing Premier Hua Guofeng underlined the leadership's concern when he warned in his farewell speech that "if population growth is not controlled, there will be an ultra-high peak, making it virtually impossible for the economy and all the social institutions to cope with [the consequences]."

Taking the Pledge

When a U.S. delegation went to China in April 1981 to discuss cooperation in population social-science research, they found the one-child policy being pushed nationwide, with considerable local variation in how the policy is implemented. From some accounts, when the national government began the policy, orders went out to each provincial government, which were allowed to try different ways of implementing it. But no national statement detailing the policy was ever publicized, resulting in confusion among family planning officials about what the limits were. (Strictly one child? One child preferred but two children are acceptable?)

Data reported to the delegation, which was headed by U.S. Ambassador Richard E. Benedick (see *INTERCOM*, July 1981), indicated some impressive efforts at implementation, though the policy is still too new for full appraisal of its potential demographic, social, and political impact.

From all accounts, mass media and local organizations are heavily promoting the one-child norm as a matter of national and community responsibility; the goal is to have a substantial proportion of young couples sign a pledge to have only one child. Stewart E. Fraser of La Trobe University, Melbourne, Australia, reports that since the mid-1970s China's State Council has set birth targets for regions and provinces, with the targets differing depending on previous performance, economic development, minority population, etc. Each province's birth planning office then prepares an annual plan of births, which translates into the kind of pressures and programs employed at the local level to stay close to the birth target. Fraser reports that throughout China, the three reproductive norms of "later, longer, and fewer" (later marriage, longer spacing, and fewer children) are being used as reproduction yardsticks, there is a major effort to replace these strictures with "late, delayed, and only" (late marriage, delay the first birth, and make it the only birth).

To accomplish this, according to reports, strong economic, social, and peer pressure is brought to bear on couples to take the one-child pledge. Person-to-person contact by local motivators, intensive education and follow-up, and stimulation of peer pressure are important elements in the program.

The incentives include small supplementary monthly payments and food rations; free health care, schooling; preferences for housing and jobs; preferences for the child's higher education; and (for those who work directly for the state, mainly in urban areas) higher pensions. In one commune the delegation visited, the private land allocation is 50 percent greater for the one child as opposed to subsequent children.

The Chinese leadership is betting that the needs of the state buttressed by peer pressure plus short-run economic benefits will offset couples' concerns about future old age security derived from having at least two children.

Abortion is freely available to terminate pregnancies occurring from contraceptive failure.† *Couples who sign the pledge and subsequently carry a second child to term must repay all one-child benefits they have received thus far.* What impact such a disincentive would have has not been determined; however, the strong peer pressure to have only one child might also socially enforce the penalties for breaking the pledge.

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*The most quoted Chinese population pronouncement, scholar H. Yuan Tien points out, is Mao Tse-Tung's 1949 statement: "It is a very good thing China has a big population. Even if China's population multiplies many times, she is fully capable of finding a solution...(in short)...revolution plus production can solve the problem of feeding the population...Of all things in the world, people are the most precious..."

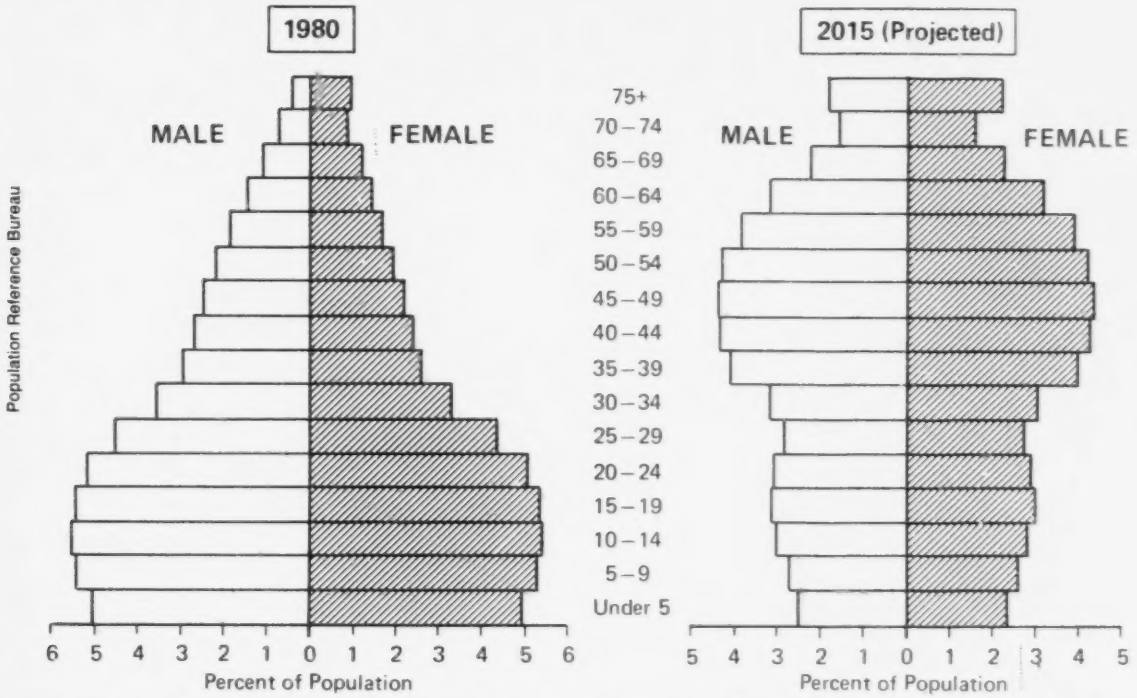
For years this statement was China's population policy. By 1957, however, Mao was quoted as saying: "Steps must...be taken to keep our population for a long time at a stable level, say of 600 million...."

**A new census is to be held July 1, 1982.

†The IUD is China's most-used contraceptive technique, followed by sterilization of women and of men, oral contraceptives, condoms, and other methods such as injectables. Novel methods occasionally reported in the media, such as the "paper pill," the "morning-after pill," and the male oral contraceptive gossypol, are not yet in mass use.

A decade ago, when fertility was higher, sterilization was used more; but as family sizes have diminished, interest in easily reversible contraceptive techniques has increased.

Illustrative Projection of the Effect of a 1.5 Total Fertility Rate on China's Age Structure Over the Next 35 Years



Sources. 1980 pyramid: World Bank estimates. 2015 pyramid: PRB projection premised on the TFR dropping to 1.5 by 1985; and increases in life expectancy at birth (females: from 67.5 years [1980] to 77.5 [2015]; males: from 63.6 [1980] to 73.9 [2015]) and declines in infant mortality (females: from 40.3 infant deaths per 1,000 live births [1980] to 8.9 [2015]; males: from 51.9 [1980] to 13.3 [2015]).

There are important exceptions to these stringent policies. China's ethnic minorities and frontier population groups (in all, about 60 million persons) are exempted by the open letter from the one-child policy. At one commune visited by the delegation, if the first child was "not healthy enough," the couple could apply for permission to have a second child; if permission was granted, no penalties would be applied.

Intense Social Pressure

Despite the strong impetus from above, the one-child norm is running into the same traditional barriers that family planning programs do everywhere. China is over 80 percent rural, and it is in the countryside that family planning programs lag; the estimated 1979 crude birth rate was 40 percent higher in rural than in urban areas. (The Benedick delegation received figures that reported an urban total fertility rate of 1.5-1.7 compared to the reported national average of 2.3.)

In rural areas there remains a perceived need for children to help with the agricultural work and as "old-age insurance." (Aside from salaried government workers, who receive pensions, old-age insurance is largely a local affair, and most aged people are still dependent on their children for assistance.) In addition, for both economic and social reasons, sons are more esteemed than daughters, an attitude that could prove troublesome in any future one-child society.

Nonetheless, when the Chinese spoke with the U.S. delegation, they pointed to some signal successes in their population program. Sichuan province, which, with a population of almost 100 million, would be the world's eighth largest country if it were a country, reportedly has achieved a 72 percent birth rate reduction in the last decade (from 40.7 in 1970 to 11.2 in 1980), while its growth rate reportedly fell by 85 percent (from 3.1 in 1970 to an estimated 0.45 percent in 1980). (These figures should be viewed with great caution, but in essence there is no doubt that Sichuan has experienced a rapid and deep fertility decline during the 1970s.) Some 85 percent of married couples practice family planning, and 81 percent of one-child families have signed pledges to have no more children.

Even Guangdong (population 58 million), described as the province with the least successful family planning program, had a reported growth rate of 1.5 percent in 1980, still very low for a less developed region, and a contraceptive use rate of 72 percent of married couples. In this province, 29 percent of one-child couples have signed the pledge.

The details of how the one-child pledge campaign is organized and controlled remain sketchy. A 1980 news report from *Washington Post* correspondent Jay Mathews in Peking about the early days of the campaign perhaps gives the flavor. There, the one-child family relied less on incentives and more on intense social pressure. "People are going and knocking on doors every night and arguing with people who don't take the pledge," he quoted one foreign observer in Hebei province as saying; while commune officials working in the campaign were instructed that "you must not be afraid of being beaten." And, when asked about those who did not sign the pledge, one commune official responded simply: "Everybody is going to sign the pledge."

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The Shape of China's Population Future

The post-World War II era has seen population upheavals of different kinds in various parts of the globe, as many countries have experienced rampant growth and increasingly youthful age structures. (All this caused by continuing high fertility rates combined with plummeting death rates.) China, the most populous country in the world (as it has been for many centuries) experienced an upheaval of population growth in the hundreds of millions. That upheaval is what has caused the urgency for controlling population growth.

But if it succeeds as planned, China's precipitous population program may cause another kind of population upheaval. The projected fall of fertility, from a growth rate as high as Pakistan's in the late 1960s to a growth rate 30 years later, as low as Sweden's, could have an extraordinary demographic and social impact on the country that contains nearly a quarter of humanity.

The one-child family could have enormous social impact on China. No one can even guess what will happen (in a country that esteems sons so much or relies on the "network" afforded by the extended family) when many of the country's families have "only" daughters, or when aunts, uncles, and cousins become a demographic rarity.

PRB projections also show that if China achieves anything like a one-child norm, the country's age structure will change drastically. The new birth cohorts could be little more than half the size of those generated during the 1970s. The resulting age structure would be heavily weighted toward the older ages, much more so than the United State's age structure with its aging baby boomers.

The figure on page 13 shows the projected age pyramid of China in 2015 if a total fertility rate (TFR) of 1.5 children per woman is achieved by 1985. Its appearance is almost as though the 1980 pyramid, also pictured, were turned upside down.

A TFR of 1.5 would be very low – almost as low as West Germany's current world record 1.4 – though it would still be higher than the present one-child norm (excepting minorities) of Chinese population policy. If it occurred, China's population growth would slow to 0.6 percent by 1985. The total population would reach 1.11 billion by 2000 when it would be growing at 0.14 percent, or 1.67 million a year. The population would not peak until after 2015, at some 1.16 billion.

As this lowered TFR began to make itself felt in the age structure, China's age dependency ratio would fall during the next few decades – perhaps from the present 60 (1980 estimate) to perhaps 40 (2015 projection).[x] In the more distant future, the dependency ratio would begin to rise again, as the huge cohorts born 1960-1980 became elderly. Should China's life expectancy rise, as seems likely, the elderly cohorts of the mid-21st century could be relatively huge. If the 1.5 TFR were to begin soon and go on indefinitely, PRB's projections show that in 2050 those people 65 and over could number 234 million – 25 percent of the Chinese population! – before the bulge of huge cohorts passed.

These projections and age structures have a touch of the fantastic about them. But given China's fantastic actual planning commitment and fertility-reduction goals, the age structure is surely in for some kind of fundamental change. (Not for nothing have Chinese demographers expressed interest in such "Western" demographic issues as aging population structures.) At the end of this ride, sometime during the next century, China's population should stabilize in an ordinary stationary-population pyramid, with roughly equal numbers in all age groups except the very oldest. Like Sweden's pyramid, only much, much bigger. And when that stationary point is reached, one of the world's most varied, interesting, and vital population sagas will have come to a resolution. □

[x]The age-dependency ratio is the ratio of persons in the "dependent" ages (under 15 and over 64) to those in the "economically productive" ages (15-64). China's present ratio of 60 means that there are 60 persons in the dependent ages for every 100 persons in the working ages.

Wind's Energy Potential

Wind power could supply 20 to 30 percent of the electricity in many countries by the early part of the next century. And according to the latest Worldwatch Institute study, this relatively clean, economical, and renewable source of energy will play a pivotal role in the post-petroleum world.

"Tens of millions of small wind turbines and pumps may soon serve rural areas, and clusters of large wind machines could be linked to utility grids," writes Christopher Flavin, author of the report, *Wind Power: A Turning Point*. "Already, over 100 manufacturers worldwide are producing wind machines for the commercial market. More than a dozen countries now have national wind energy development programs."

Initiatives over the next few years will determine whether the wind's considerable potential is turned into useful forms of energy, says Flavin, a senior researcher with the Washington-based group. Private industry and utility companies have begun investing heavily in wind power, and many national governments have stepped up their research efforts. The United States is a notable exception – the Reagan administration recently proposed substantial cuts in the world's most ambitious wind-energy program.

Water-pumping windmills are the simplest and most widespread wind machines. Approximately 1 million small windmills are found in rural regions of the world, supplying precious water for livestock, irrigation, and human consumption. Interest in this ancient technology for drawing water is reviving in many countries, and appropriate technology groups are developing improved windmills. By the turn of the century, over a hundred million farmers and villagers – mainly in developing countries – could be benefiting from this form of wind power.

The use of electricity-producing wind machines may expand even more rapidly, the author predicts. Rural farming regions both in industrial and developing countries offer excellent sites for small wind turbines. "Today, most small turbines are found in remote areas without access to electricity," Flavin observed. "The key to expanding the use of small wind machines is to lower their cost and improve their reliability. The wind turbine field is currently about where the auto industry was before Henry Ford introduced the Model T. In many regions with average wind speeds of at least 12 miles per hour, electricity that costs as little as 5 cents per kilowatt-hour should be produced by the next generation of wind turbines."

Centralized wind power for utility use may also have a bright future. Research programs are now under way to

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world food news

Losing Food

One of the 1974 World Food Conference resolutions dealt with the age-old problem of how to protect harvested food crops before they reached the consumers plate. In the mid-1970s, little was known about the magnitude of postharvest food losses. At that time, one general figure put forth suggested that 10 percent of all food crops produced in developing countries were lost. This was considered a conservative estimate. The Conference agreed that these losses should be halved within the brief span of a decade.

In 1976, The FAO designated the fight against food losses as a priority program. "Our campaign to cut food losses aims at giving practical help to the millions of small farmers upon whom most food supplies of the developing countries depend," FAO Director-General Edouard Saouma said as the program began.

In its initial phase, the Prevention of Food Losses Program (PFL) focused on reducing losses in staple foods such as cereals and roots and tubers in those countries that were either least developed or most seriously affected, or in food priority countries. Within these countries, the Program concentrated on the poor section of the rural population.

All projects of the PFL program include an assessment of losses to obtain more precise estimates. The data, explains the coordinator of the Program, A. Huysmans, are still too sketchy to permit generalization but the projects have shown that in a number of cases actual losses are higher than anticipated.

To illustrate the point: the cereals harvest of around 700 million tons a year for all developing countries is projected to rise to about 850 million tons by 1985. Losses would amount to 85 million tons if the 10 percent estimate remains unchanged. A reduction of cereal losses by half by 1985 would imply annual savings of more than 40 million tons. A corresponding cut in imports at current prices would represent savings in vital foreign exchange of $7.5 billion yearly.

The PFL program of FAO is not fundamentally developing new techniques. What is new is the concerted, all-out approach from the harvest to the household, as well as the strong emphasis on traditional and intermediate technologies both in the areas of origin and in the exchange of knowledge among developing regions. Training in prevention of food losses has also become a major activity of the program.

By the end of this year, FAO will have completed approximately 30 such projects under the program. It is funded by voluntary contributions from member countries of FAO.

The original pledging target of the program was $20 million for the first two years of its activity, 1978 and 1979, plus $10 million for each consecutive year. Between 1978 and the end of 1980, however, less than $20 million in voluntary contributions have been received. Despite this, the program's catalytic effect, gauged by the followup support to FAO field projects is encouraging, says program coordinator Huysmans. He particularly cites FAO's work in Africa and Asia.

As a result of the FAO Action Program, an increasing number of bilateral and multilateral rural development projects and programs now include, as an integral element, a food loss prevention component.

An expert group recently recommended that FAO should also extend its PFL work to perishables – vegetable and fruit – which show the highest losses of all crops but are difficult to protect against hazards and deterioration. □

Continued from preceding page

develop large turbines with blades as long as a jumbo jet's wings and with sophisticated computer controls. Arrays of these large turbines placed at windy sites, dubbed "wind farms," are expected to produce electricity at least as cheaply as a conventional power plant does.

Utility companies are showing a great deal of interest in wind energy, according to the study. Ninety-one utilities in the United States alone had wind-energy programs as of 1980, and 42 of them are looking into the use of large wind machines.

"The attitudes and policies of the world's electric utilities will have a critical impact on wind power's future," Flavin concludes. "The most economical way to use both large and small turbines is to connect them to utility grids and so avoid the separate and expensive storage of wind-generated electricity. Recent analyses have shown the wind to be a relatively reliable and economical provider of power, and it could be a major growth area for utilities in the future." □

Copies of Worldwatch Paper 45, "Wind Power: A Turning Point" by Christopher Flavin, are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-50 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

So You Want to Work in Population?

The University of Illinois at Urbana-Champaign offers an M.A. and Ph.D. in sociology with a specialization in demography. This program was inadvertently left off INTERCOM's June 1981 list of universities with population graduate programs. □

Vital Statistics Update

Provisional U.S. Vital Statistics: April 1981

Item	12 months ending with April			
	Number		Rate	
	1981	1980	1981	1980
Live births	3,627,000	3,524,000	15.9	15.6
Deaths	2,002,000	1,950,000	8.8	8.6
Natural increase	1,625,000	1,574,000	7.1	7.0
Marriages	2,392,000	2,389,000	10.5	10.6
Divorces	1,193,000	1,180,000	5.2	5.2
Infant deaths	44,600	45,300	12.3	12.8
Population base (in millions)	...	...	228.0	225.5

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates.

Source. Monthly Vital Statistics Report (Vol. 30, No. 4) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

THE EUROPEAN DEMOGRAPHIC SYSTEM, 1500-1820, by Michel Flinn. Baltimore: Johns Hopkins, 1981. 179 pp. $10.00. ISBN 0-8018-2426-5. LC 80-19574.

In 1956 Michel Fleury and Louis Henry published a small volume promoting the now familiar method of estimating demographic parameters and change of historical populations by "reconstituting" families from parish records. Suddenly, social scientists were freed from the grossly inadequate censuses, tax returns and the like that previously had been the only source of data. Many European parishes were studied during the 1960s and this sprinkle of information became a torrent in the 1970s. Historian Michel Flinn has undertaken the mammoth job of summarizing the current knowledge of the dynamics of the European population from 1500 to 1820. The basis of his generalizations are a set of comparable rates from as many studies as possible which measure fertility, mortality and marriage. The text gives thoughtful but nontechnical explanations of the relevance of these demographic statistics and he is careful to point out the weakness of his own data and that inherent in reconstruction studies. A review of fertility, mortality and migration throughout Europe during three centuries of remarkable social change in one hundred pages must sacrifice many details. However this book earns a place on demographic reference shelves because of its outstanding appendix tables, which give all of the data referred to in the text with source citation, time reference and location of the study, and the 700-source bibliography. One-third of the citations were published between 1975 and 1979. —*Ann Larson*

TWO STUDIES ON UNEMPLOYMENT AMONG EDUCATED YOUNG PEOPLE, by Simone Morio and Yarrise Zoctizoum. Paris: UNESCO, 1980. 133 pp. $6.00. (Distributed by UNIPUB, 345 Park Ave. South, New York, NY 10010; order no. U996.) ISBN 92-3-101618-0.

One of the conventional explanations for high levels of unemployment among young people just entering the labor force has been that employers are reluctant to hire workers with few skills and limited work experience. A partial solution was believed to be raising the skill levels of new entrants to the labor force through formal education. Contemporary evidence from developed and developing countries alike indicates that solving the problem of high unemployment among the young is more difficult than such a simple and straightforward remedy suggests. As average educational levels increase, new and unexpected quandaries arise. In developed and developing countries the educated young are having serious difficulties finding not only jobs for which they feel they are qualified, but in many cases any meaningful job. This book offers two studies on unemployment among educated young people, one set in the developed countries, the other in French-speaking developing countries. The studies evaluate how rising educational levels, increased reliance on credentials, and economic conditions, among other variables, affect this group's employment prospects. Of the two papers, the one on the situation in developed countries gives much the better treatment of these issues. —*Sergio Diaz-Briquets*

THE PAPACY TODAY, by Francis X. Murphy, C.SS.R. New York: Macmillan, 1981. 269 pp. $13.95. ISBN 0-02-588240-6 LC-81-869.

From the reign of Leo XIII that began in 1878 to that of John Paul II, Francis X. Murphy provides detailed information on all facets of the modern papacy. While he emphasizes the problems facing the current leader of the Roman Catholic church, Father Murphy addresses the numerous other issues that have faced the church and its leaders over the past century. Considerable emphasis is focused on the issues of population growth and birth control. The intrigue surrounding the work of the Papal committee studying birth control and Paul VI's eventual decision culminating in *Humanae Vitae* is discussed at some length and the author does not hesitate to "name names." He is equally critical of the current pontiff's failure to show "compassion for the millions of women of child bearing age who found themselves caught between the exigencies of their current family and the Church's ban on artifical contraception." As is always the case with Murphy's work, **The Papacy Today** is admirably written, with the layperson in mind. One finds it difficult to put it down after reading even a few paragraphs. This is a critical yet understanding analysis of the problems facing the papacy in the 20th century and how the various popes addressed themselves to solving them.

—*Lee Bouvier*

PUBLIC POLICIES FOR AN AGING POPULATION, edited by Elizabeth W. Markson and Gretchen R. Batra. Lexington, Mass.: Lexington Books, 1980. 141 pp. ISBN 0-669-03398-7. LC 79-3249.

This collection of essays is the first volume in the Boston University Series in Gerontology. The essays cover subjects ranging from the Gray Panthers to women's issues to institutionalization, and shed full light on problems that are too often seen only peripherally. In particular, the essay by Gary Orgel stands out, concerning self-concept and dignity—psychological factors that shape the elderly's personal environment. As an introduction to the policy needs of the U.S. elderly population, this book serves well, thanks to its directness, readability, and diversity of subject matter.

—*Ed Beemer*

THE CHANGING MIDDLE EASTERN CITY, by Helen Anne Rivlin and Katherine Helmer. Binghamton, N.Y.: Center for Social Analysis, Program in Southwest Asian and North African Studies, SUNY, 1980. 262 pp. $5.00 paper.

This volume contains the papers presented at the 1979 conference sponsored jointly by the Program in Southwest Asian and North African Studies (SWANA) and the SUNY/Binghamton Center for Social Analysis on Processes and Consequences of Urban Change in the Middle East. This work is one of several recent signs reflecting growing interest and concern with urban growth in the Middle East. Current estimates indicate that more than 45 percent of the population of the Middle East live in urban areas, a considerably higher concentration than in surrounding areas of Africa and Asia. Rapid urban growth, fired by generally high fertility in the region and the inability of rural areas to absorb labor, is expected to continue. Consideration of the implications of this growth and suggestions for future research and action are provided by 10 senior social scientists representing eight Middle Eastern nations. The range of issues addressed includes the causes and consequences of urban growth, the integration of rural peoples in urban areas, the design and provision of urban services, social control in the context of urban change, and urbanization and women's roles. Separate bibliographies for each of these topics are included.

—*Cary Davis*

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INTERCOM

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Food and Population: The Margin Narrows

by Jean van der Tak

Despite this year's bumper crop in the U.S. and dramatically increased crop yields in some Third World countries during the 1970s, world food production has lost momentum since 1970, reports Lester Brown in PRB's *Population Bulletin* for September.

President of Worldwatch Institute and a member of PRB's Advisory Committee, Brown says his analysis of the gathering forces behind this slowdown indicates that future food demands will not be met if global population growth continues as projected. Among those forces, he cites worldwide loss of topsoil and irrigated land, conversion of cropland to nonfarm uses, rising energy costs, diminishing returns to the use of chemical fertilizer, and the emerging competition between food and agriculturally based energy crops.

Between 1950 and 1971, world grain production nearly doubled from 631 million metric tons to 1.2 billion tons and per capita production rose 31 percent. In 1980, total production was up only to 1.4 billion tons and production per person, at 324 kilograms (713 pounds), was below the 330 kilograms of 1971, Brown notes in his *Bulletin*, "World Food Resources and Population: The Narrowing Margin." The 43-page Bulletin is adapted from Brown's book *Building a Sustainable Society* financed by the United Nations Fund for Population Activities, which is to be published by W.W. Norton in October.

Good harvests and the return of idled U.S. cropland to production permitted a rebuilding of world grain reserves after the depletion due to drastic crop shortfalls of the early 1970s in Asia, Africa, and the Soviet Union. But in 1980, with another poor harvest in the Soviet Union and a mediocre one in the U.S., these reserves dropped again to a post-World War II low of 40 days of consumption. "Stripped of its reserves, the international community can no longer be counted on to respond effectively to crop shortages in poor countries," Brown says. Only 7.6 million tons of grain are now committed as food aid under the World Food Convention completed in 1980 after years of negotiation. Inability to increase grain production at the same pace as demand cur-

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	U.S.	All other countries
Individual	$ 25	$ 32.50
All students	5	6.50
Educator—primary/secondary	10	13.00
Educator—college	15	19.50
Library (public, university, school)	30	39.00
Institution	100	130.00

Directory Details D.C. Population Groups

There's good news for anyone interested in U.S. population organizations: The Directory is back in print.

The *Directory of the Population-Related Community of the Washington, D.C. Area,* that is (to use its full title). It lists 200 or so groups and institutions, both private and public, involved in population in the Washington-Baltimore area, an area that is perhaps the most concentrated "hotbed" of population work and workers anywhere.

The new Directory includes every public interest group from the Alan Guttmacher Institute to Zero Population Growth; every organization that has some population component, from the National Science Foundation to the Westinghouse Population Center; every government entity with a population dimension, from the House Committee on Post Office and Civil Service (which has jurisdiction over Census Bureau matters) to the State Dept.'s Oceans and International Environmental and Scientific Affairs bureau (which contains the Office of the Coordinator of Population Affairs).

This fourth and largest edition of the Directory replaces the much-sought-after third edition, which was published in 1978 by the D.C. Chapter of the World Population Society and has long been out of print. It's now expanded to 120 pages and is replete with essential names, addresses, and phone numbers of the Washington-Baltimore area's population organizations in the public and private sector, Congressional committees, and universities. For the first time, the Directory includes a subject index by functional area, activities in population, and population resources offered.

The efforts of many local population organizations, which contributed staff and resources, made the Directory possible. The new edition was prepared under the auspices of the Population Reference Bureau.

Copies of the *Directory of the Population-Related Community of the Washington, D.C. Area* are $5.00 each. Send order and remittance to Circulation Dept., Population Reference Bureau, PO Box 35012, Washington, D.C. 20013.□

Waiting for Foreign Assistance

Earlier this year, the Reagan administration asked Congress to approve a $253 million budget for overseas population assistance for FY 1982—lower than the Carter administration's final request of $346 million for that year, but higher than the approximately $190 million that the program has subsisted on during the last two years, when Congress's inability to agree on new authorizations and funding resulted in the program being funded at old levels by "stopgap" continuing resolutions.

So far, House and Senate committees have produced foreign assistance bills that authorize $240 million (House) and $216 million (Senate) for population assistance. These figures are lower than the Reagan request; neither has yet gotten to a floor vote. While the administration has signaled that it considers foreign aid to be a priority item, and population assistance to be an important part of that aid, it remains unclear whether Congress is presently willing to act on these ever-controversial items in this year of budget cutting.

Federal Cutoff Shifts Abortion Funding to States

When the Hyde Amendment was passed by Congress in 1976, cutting off Medicaid funding for abortion, "pro-choice" groups were concerned that complications from illegal abortions among poor women would rise. "Pro-life" groups hoped that more women would be encouraged to carry the pregnancy to term.

In fact, the results have not been at all clear-cut, according to a new analysis of the effect of the amendment on abortions. The study, published in *JAMA*, was conducted by Willard Cates of the Center for Disease Control and focuses on the 2½-year interval between August 1977 and February 1980.

In FY 1977, the year before the Hyde Amendment, approximately one-quarter (295,000) of the 1.3 million abortions per year in the U.S. were obtained by low-income women through Medicaid. During the following two years, the number of federally funded abortions averaged 3,000 per year, only 1 percent of the previous figure.

The amendment, therefore, effectively stopped federally funded abortions. However, several states continued to fund abortions using state revenues, so that approximately 85 percent of the low-income women likely to seek abortion were still covered by state funds.

So with the Hyde Amendment banning Medicaid funding of abortions, what did the approximately 295,000 low-income women do who were likely to be seeking an abortion?

The study showed that an estimated 94 percent of them obtained a legal abortion anyway. Seven out of 10 of these abortions were financed by state revenues; the rest by other sources of funds (personal finances, reduced user fees, contributions, etc.). About 5 percent of the low-income women continued their pregnancies to term, while only an estimated 1 percent resorted to illegal abortion.

The study did show a difference in outcome between states that funded abortions versus those that did not. In the states that did fund abortions, 97.6 percent of the women "at risk" had abortions; only 2 percent carried their pregnancy to term. In the states restricting funding, 20 percent carried their pregnancy to term. This may indicate that a total funding cutoff may cause a proportion of women to carry a pregnancy to term who might otherwise obtain an abortion. But these data may not be applicable to all states, and it should be emphasized that nearly 85 percent of low-income women likely to be "at risk" live in states that still fund abortions (especially California, New York, and the District of Columbia).

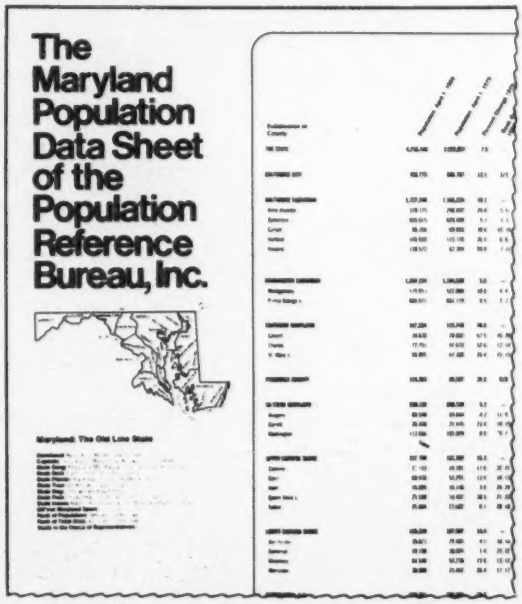
In conclusion, the study finds that the Hyde Amendment only eliminated federally financed abortions. It has not had a significant effect in discouraging low-income women from having abortions (perhaps 3 to 5 percent of those who would have had a Medicaid abortion are carrying their pregnancy to term), nor has it significantly increased illegal abortions (1 percent). What it has mainly done is to reduce the number of abortions financed by the public sector by about one-third; these are now financed privately. And the number of abortions performed for low-income women has remained about the same.□

Everything You Wanted to Know About Maryland

Just published by PRB, the *Maryland Population Data Sheet* is an 18½ by 24 inch wallchart offering a comprehensive population breakdown of a U.S. state. Some two dozen columns of vital rates, population figures, and economic, labor, and farmland statistics are given for each of Maryland's 23 counties and the city of Baltimore, as well as data (for purposes of comparison) on the neighboring District of Columbia and the United States as a whole.

Glancing down the Data Sheet, one can examine Maryland's counties by the numbers in everything from crude birth rates to motor vehicle death rates to population per physician. One can also see population trends in the making; how 30 percent of the state's 4.2 million people reside in the Washington area, but how the exurbias of both Baltimore and Washington are exploding (as other states' exurbias are), as people move out of the city and surrounding suburbs to new, rural areas. (The population of exurban Howard County, west of Baltimore, nearly doubled its population between 1970 and 1980, for example.)

The *Maryland Population Data Sheet* was released in mid-September. In Baltimore, it was distributed at a gathering of Maryland officials and educators; in Washington, a news conference was held at which PRB demographers and former Maryland Senator Joseph Tydings answered questions from the media. (In the past, PRB has produced state data sheets on Hawaii and Texas.)



The *Maryland Population Data Sheet* is available from PRB for $1.00 per single copy; 2-49 copies, 75¢ each; 50 or more, 50¢ each. (50¢ handling charge on orders $5.00 and under.) Send order and remittance to PRB, PO Box 35012, Washington, D.C. 20013

Two New Papers from the Population Crisis Committee

Family Planning: Some Policy Options

Where do we go from here? "Over the last decade, as a result of organized family planning programs and general social and economic changes, the rate of world population growth has declined from a record high of 2 percent annually (a doubling time of 35 years) to about 1.7 percent (a doubling time of 41 years). Birth rates have dropped by 20 to 60 percent in more than 30 developing countries during this period."

Very encouraging progress, but still not comprehensive enough to forestall another doubling of world population by early in the 21st century, reports the PCC's new paper on family planning policy alternatives, "Acclerating Fertility Declines: Policy Alternatives." Much research and analysis has been done on countries whose birth rate has dropped to replacement level or below, and while many factors have come into play, most people agree that when a country has "developed" in the western model, fertility rates have dropped.

But what about countries in which the cultural mores forbid development in the western sense? Recent events in Iran illustrate this dilemma; unless present religious and cultural patterns change, development, as western countries define it, cannot occur.

If a hypothetical developing country with limited resources were just embarking on a program to reduce its birth rate, its options would probably be limited and confusing. Perhaps the method that really works has not yet been tried. At any rate, countries' circumstances are often so different that it sometimes seems as though each one is destined to struggle along in its population program until the right combination of factors is found.

How, then, does one approach the task of putting together a national population program?

The report outlines the categories of options available to countries that would like to alter their fertility rate.

1. Direct interventions designed to affect women's actual exposure to pregnancy, or to affect pregnancy outcome including:
   - Raising the age of marriage.
   - Encouraging breastfeeding.
   - Increasing contraceptive prevalence.
   - Liberalizing abortion laws.
2. Intermediate interventions, including:
   - Changing attitudes about contraception and family size.
   - Providing incentives and disincentives.
3. Indirect interventions, including:
   - Expanding female education.
   - Expanding female employment.
   - Reducing infant mortality.
   - Reducing rural/urban differences.
   - Reducing income disparities.

The report analyzes the different options and present data on them, but it emphasizes that the alternatives must be carefully chosen and implemented with full cognizance of potential problems and resistance within each individual country. Time is an important factor. "The next two decades will be critical for population policy. Today, there are 1.2 billion people in their prime childbearing years (ages 15 to 29). That number will probably increase by a third over the next 20 years– more than all of the people in Latin America today. The decisions this new generation of young people makes regarding family size will be the determining factor in whether or not–and at what level–world population can be stabilized in the next century."

NFP: Advantages, Disadvantages

All contraceptive methods have limitations, and all have disadvantages for some couples. At the present time, most advocates of fertility control tend to lean toward the "artificial"methods such as the pill, diaphragm, IUD, or spermicides. Several recent developments, however, have led to a renewed interest in "natural family planning" (NFP) or abstinence from sexual intercourse during the time interval in which a woman is likely to conceive.

These developments, outlined in Population Crisis Committee's new report, "Natural Family Planning: Periodic Abstinence as a Method of Fertility Control," are:

1. The new advances in knowledge of the female reproductive cycle which allows better monitoring of each woman's fertile period.
2. Increasing awareness by the Roman Catholic Church of the enormous human and social cost imposed by the rapid population growth in many countries and its efforts to lower the fertility rate without contravening the church's ban on artificial contraception.
3. The widely publicized concerns about the unknown risks associated with the pill, IUD, and spermicides, sometimes used with diaphragms and condoms.

Theoretically, NFP has substantial advantages over the "artificial" methods. After initial training the method is virtually cost-free, and there are no known physical side effects to the couple using the method (although studies with both animals and humans have indicated a real possibility that miscarriages and birth defects are more likely when the NFP method fails, probably because the conception is more likely to involve an aged sperm or egg).

The PCC report lists some other NFP advantages:

- For Catholic couples, the method allows a degree of fertility control that has church approval.
- NFP methods teach women about their body and the reproductive function with an increased sense of control and responsibility.
- NFP requires greater cooperation between the marital partners and can contribute to a more equitable marital relationship, with both partners deferring gratification.
- On an international level, NFP can be introduced into cultures where traditional mores would resist artificial fertility control; then, once the concept of such control is accepted, other methods can more easily be introduced.

There are four major methods of NFP, one of which is the traditional "rhythm" method, based on use of the calendar and knowledge of a woman's past menstrual cycles. The other three are based on new advances in understanding of changes which occur in the woman's body during the days surrounding the ovulation period. (These advances have

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emerged more as an aid to childless couples than to those wishing to limit fertility.) The methods depend in differing degrees on changes in the basal body temperature (a rise), changes in the cervix and cervical mucus, and other indicators which vary from woman to woman.

When used faithfully and correctly by women with fairly predictable menstrual cycles, the method should theoretically be 98 percent effective, according to the U.S. Dept. of Health and Human Services. But like all methods, the use-effectiveness percentage is generally much lower. (The proportion of women using the method who become pregnant varies in different studies from 10 percent to 30 percent, generally higher than other methods.)

NFP also poses other difficulties. One is the inability or unwillingness of the partners to refrain from intercourse for the required period of time (usually two weeks, but more if the woman's cycle is longer than the "average" 28 days). Another problem is the high degree of predictability required in the woman's reproductive cycle. Teenagers and women approaching menopause have a high degree of menstrual irregularities, and only one third of all women have a cycle within eight days of the 28-day "average" cycle. Moreover, pregnancy and lactation can alter the reproductive cycle.

Some women have regular periods but the temperature, cervical, and other physiological changes are ill-defined and haphazard. The indicators can be affected by illness, infection, emotional factors, alcohol consumption, and even intercourse, all of which can cause uncertainty and mistakes in timing. In short, NFP knowledge, although advanced, is still too limited to make the method suitable for many couples, especially those who are unprepared to accept a reasonable pregnancy risk.

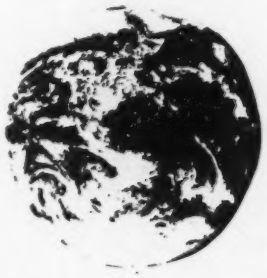
In fact, the report states that according to studies currently available, the rate of NFP acceptance is low. (Says the Report: "According to the best estimates, between 2 and 4 percent of all women worldwide living in union use some form of periodic abstinence; the vast majority of [these] use a version of calendar rhythm.") Even when the studies have been done with highly motivated individuals, and a concerted effort has been made to recruit specifically for the NFP method of fertility, response is low.

Proponents feel that this is due to past emphasis on the artificial methods, a possibly valid contention. But continued peripheral use worldwide of NFP raises questions about its place in public funding. The report concludes that the criteria for public funding of NFP should be sufficient demand, cost effectiveness, and a certain degree of method acceptability and reliability within the considered population. It also emphasizes that informed choice and availability of alternative methods also be a criterion for public funding.□

The briefing papers, No. 11 "Natural Family Planning: Periodic Abstinence as a Method of Fertility Control" and No. 12, "Accelerating Fertility Declines: Policy Alternatives" are available free in limited quantities from the Population Crisis Committee, 1120 19th St. N.W., Washington, D.C. 20036.

CO_2 Is Heating Up The Earth's Climate, Major Study Finds

When scientists first discussed the environmental implications of the increase of carbon dioxide (CO_2) in the earth's atmosphere, some hypothesized a "greenhouse" effect. CO_2 in the atmosphere blocks infrared radiation. The sun heats the earth; an increase in CO_2 in the atmosphere would increasingly block this heat from radiating off the earth into space; hence a gradual rise in the atmosphere's average temperature would result. (Similarly, a greenhouse lets sunlight in but does not let the heat out; hence the greenhouse warms.)



The greenhouse theory has been in circulation for a number of years. While many have expressed concern over the possible effects of rising CO_2 levels, critics of the theory pointed to an apparent cooling trend in the world's weather during the last 40 years, which would seem to contradict the theory. But now a new study conducted by scientists at NASA's Institute for Space Studies, in New York, lends more support to the greenhouse theory.

As the study points out, atmospheric CO_2 increased from 280-300 parts per million (ppm) in 1880 to 335-340 ppm in 1980. Part of the cause may be world deforestation, the report says (less vegetation would absorb less CO_2 out of the air), but the increase is seen as mainly due to the burning of fossil fuels. The CO_2 concentration is projected to grow to 600 ppm by the end of the 21st century, even assuming that rises in both energy use and consumption of fossil fuels slow down.

As a result, the study says, the mean global temperature will rise five degrees Fahrenheit during the next century. The authors, J. Hanson et al., conclude that the recent cooling trend was part of the natural ebb and flow of climatic variation, and in fact the average temperature has been slowly rising over the last hundred years. (Natural fluctuations over the past thousand years were ascertained by examining the levels of oxygen found in an ice core sample from Greenland.)

Many unknowns could alter the world's CO_2 future: Increases in global vegetation could keep CO_2 levels down; the oceans could absorb more CO_2 than expected; dust in the atmosphere from pollution and volcanic activity could reflect sunlight and so tend to decrease temperatures. But if the projected warming trend does occur, the effects would be diverse and unpredictable. A warmer earth could mean a longer growing season and increased crop yields. On the other hand, it could also mean changes in weather patterns and precipitation that could require major alterations in land use and population relocations. The NASA simulation predicts the creation, in the 21st century, of hot, dry regions in North America and central Asia, and perhaps a gradual melting of the Antarctic ice cap which would raise the sea level by 15 to 20 feet worldwide, thereby ending the urban problems of many coastal cities.□

So You Want to Work in Population?

Career Opportunities in International Development

by Sarah C. Clark

If you are interested in working as a population specialist in the international development field, you might ask yourself such questions as:

How would you fit into overall staffing? Who would your colleagues be? What would you actually be doing? What future potential would the career have?

Many of the international development agencies have some portion of their overall programs devoted to population planning, but the emphasis varies according to the agency. The Agency for International Development (AID) has for over a decade been the major donor in the population field, ($190 million in FY 1981); second in amount of funds is the UN Fund for Population Activities (UNFPA) ($131 million in FY 1981).

Working in AID*

Within AID, population professionals are employed as population advisers in various offices (or missions) worldwide, as well as at Washington headquarters, either in coordination roles or in technical positions. Currently, there are 50 professionals in the Office of Population, another 10 in the four regional bureaus, and 26 overseas.

Mission staffs vary from one part-time to several full-time professional positions, depending on the level of population activities in each country. Given the extent of family planning programs in Asia, it is not surprising that 50 percent of the agency's overseas population professionals are located in that region. Their primary responsibility is to support the agreements between the U.S. and host country governments on family planning services and other population activities. In addition, they coordinate the activities of projects funded out of Washington.

All overseas staff are members of the AID Foreign Service and are often recruited through the International Development Internship Program (a competitive program) or its predecessor programs. Successful candidates usually have at least a master's degree in development studies, public health, or other population specialty and prior overseas experience. Other Foreign Service employees working in population are former civil servants who have transferred or "converted" to the Foreign Service or been hired directly from the outside.

In the central office and regional bureaus, most employees are Civil Service employees. Recently, however, some Washington positions have been filled by Foreign Service Officers who serve for two- or three-year rotations between overseas assignments. Washington staff serve either as coordinators of activities in the geographical offices or as managers of projects of worldwide scope, such as AID's contribution to the UNFPA work in demographic surveys and measurement, social science and operations research, policy development, training and information in the field of family planning, and provision of family services and supplies.

The Washington staff includes people trained as Ph.D. statisticians and social scientists, public health physicians and nurses, communications and information specialists, and marketing experts. Most such staff are recruited through the Civil Service system.

Whether in Washington or in the field, day-to-day responsibilities of population officers are heavily administrative and focus on management of multimillion-dollar population programs. Duties include review of program budgets and reports, identification and procurement of contractor services, and guidance of technical activities. Another major function is the coordination of activities with AID and with other international activities and among contractors.

Trends over the past few years indicate that the number of professional positions in the field has declined. As administrations have changed, the emphasis between field staff versus headquarters staff, general versus technical background, social scientists versus family planners has also shifted. The number and distribution of population staff under the new administration is not yet clear.

Working in International Organizations

If working for an international organization appeals to you, you might consider the United Nations system and the World Bank.

The UN's population activities are concentrated in the UNFPA. Staff of that organization are internationally recruited and based either at headquarters in New York or in one of 38 field positions, where they report to the UN Development Programme's (UNDP) Chief of Mission. The UNFPA has a staff of 118 professionals, 69 of whom are located at the New York headquarters.

The skills and background of the staff are varied, and similar to many of those described for AID population personnel. Programs are either country, regional, or global in scale. To administer the Fund, the UN employs approximately 20 professional employees in higher management at the Chief or Deputy Chief level and 49 at the program level, bolstered by numerous support staff.

The staffing of the UNFPA very closely follows its historical development. To recognize the importance of population planning in 1967, a separate fund was established for population work which had previously been carried out by the UNDP or UN Secretariat. The intent was to create a staff to coordinate population programs, with assistance from the UN specialized agencies. Therefore, in addition to UNFPA, a number of population specialists are employed in the International Labor Organization, the regional economic commissions, and the UN Secretariat, including the Population Division and Statistical Office.

The New York headquarters of the Fund itself is staffed by country and regional program coordination staffs as well as finance officers, evaluation officers, and technical specialists in population policy, family planning, and demography.

The UN hires from all member nations and endeavors to have a widely representative staff. Americans who are interested in careers at the UN should hold discussions with the UN itself and also apply with the Office of International Organizations at the Department of State.

The World Bank, another major development agency, is the principal provider of loans to developing countries to improve basic infrastructure. Neither the World Bank nor the regional development banks devote a large proportion of their resources to population programs because of the emphasis by the Banks on capital development versus social development. However, in recent years, the World Bank has annually extended more than $100 million in population program loans.

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**All views and opinions in this article are the author's and do not necessarily reflect those of AID.*

Nobel Symposium on Population Gathers in Oslo

by Rodney Shaw

Optimism and pessimism vied in differing visions of the shape of the future at a symposium held in September in Oslo, Norway, by the Nobel Institute. The meeting, the Nobel Symposium on Population and World Economic Development: A Fifty Year Perspective, brought together 30 scholars and specialists from around the globe.

Cheerfulness prevailed while a Nobel laureate in economics, Prof. Wassily Leontief, and Food and Agriculture Organization Director-General Nurul Islam demonstrated with charts, graphs, and carefully reasoned logic how adequate food and energy could be produced for the 8 million people who may be living on the earth 50 years hence.

At this point, it seemed clear that all would be well "in the long run." Then other voices arose. Describing "the long run" as a series of short runs, an executive from the UN Conference on Trade and Development gave a harrowing picture of developing nations facing economic and financial disaster.

Norman Borlaug, the Nobel winner who had fathered the Green Revolution, spoke of the crucial shortage in developing lands of the agricultural scientists and other trained workers essential for agricultural expansion. He also pointed out that optimists often assumed that farm acreage would be expanded in the future when in fact millions of acres are slipping away every year as semiarid lands break down into deserts, prime farmland is converted into nonagricultural use, and mineral salts float to the top of the soil to stunt and kill crops in extensively irrigated land.

One distinguished social analyst expressed the thought that the population explosion is now a "second order problem," but this idea was quickly dispelled as the symposium's focus shifted to the concept of the "mega-city." Twenty-five such cities were projected for the next 20 years, most with more than 20 million inhabitants.

Driven from the land by overly fragmented holdings, declining land fertility, or any of the other components of rural poverty, millions are moving in from the rural areas. Their arrival is swelling cities often already semifunctional in terms of providing health care, breathable air, drinkable water, and sewerage disposal.

The countryside in the developing regions is hardly being emptied, however. Its total population is growing at the rate of 1.4 percent per year. This innocuous-seeming rate will boost rural numbers by half a billion in 20 years.

A note of hope was sounded by Rafael Salas, Director of the UN Fund for Population Activities. Pointing to a worldwide fertility decline now entering its third decade, he spoke of a surge of interest in family planning by developing country governments and the need for increased response by the industrialized world to requests for family planning assistance, which now annually exceed funds available from the UNFPA by more than one hundred million dollars.

At the close of the meeting, scholars and activists alike were reminded of the population opportunity and challenge presented in *Global Future: Time to Act.* This followup study to the *Global 2000* report concluded that world population could be stabilized at 8 billion rather than 12.2 billion simply by doubling the number of developing world contraceptors in this decade.

This doubling would require reaching only one out of every four of the 400 million who, according to the World Fertility Survey, have at least a passive desire to end their childbearing. The symposium participants were called upon to put this challenge at the top of their individual, organizational, and governmental agendas.□

Rodney Shaw is president of the Population Institute, Washington, D.C., and participated in the Nobel Symposium.

Continued from preceding page

Recognizing the importance of rapid population growth on development efforts of all kinds, the Bank has staff dedicated to population in two major areas – research and loans. Of the approximately three thousand professional employees, about 35 are population professionals. Of 12 professional level staff in the Population and Human Resources Division approximately half are population experts, including demographers and economists. Their purpose is to provide the research and evaluation studies for Bank commitments.

The other main focus for population expertise is in the Lending Department. Until 1979, there were 29 professional employees devoted full-time to population. At that time, the divisions were merged into the Health, Population, and Nutrition Department and given a regional focus. The number of employees dedicated to population has remained about the same, but recent staff recruitment has emphasized health and nutrition.

Of the World Bank's overall development budget, loans in the field of population have approached, but never exceeded 1 percent of the total. Over the last 10 years, approximately $400 million has been allocated to population, of which $135 million has been disbursed. Some major programs, such as the one in India, have overseas population advisers.

What kind of opportunities will there be for work in population and international development? At the moment, it does not appear as though the field will grow during the 1980s the way it did in previous years, as donor contributions level off or decline (and as some observers declare an "end" to the population explosion). But as the developing world increasingly demands population assistance, responding to this demand with the resources available may provide the challenge of the 1980s for career professionals in international population.□

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Growing numbers in female labor force. According to the Bureau of Labor Statistics, 51.2 percent of all U.S. women 16 and over in the U.S. are now participating in the total work force. The majority of these women are from the 25-34 age bracket. Changes in rate of employment participation are due to social reasons, economic demands, labor force fluctuations, and technological advancements. While women are moving into previously male-held jobs, men are also entering traditionally female occupations. Female rates of participation have more than doubled in accounting, engineering, and medical areas, but the absolute numbers remain very small. For example, the number of women in the engineering occupation has quadrupled, but they are still only 4 percent women engineers.

demographer's page

Leon F. Bouvier is Director of PRB's Demographic Research and Policy Analysis division, and the co-author of *Population: Demography and Policy.*

A New Look At Population Projections

by Leon F. Bouvier

In recent years there has been a growing tendency to look askance at U.S. population projections. Much is made of the eventual "error" from such exercises, as compared to the actual population figures.[1] Indeed, some time ago the well-known chairman of a governmental commission was heard to comment that "he had never seen a correct demographic projection."

It is of course true that no person, not even a demographer, can foretell future events. Thus, the demographic seers of the 1930s, for example, had no way of knowing that World War II would soon occur, followed by a "baby boom" of tremendous proportions. Nevertheless, projections are a useful tool for social planners if used properly. Perhaps it has been stated too often that "projections are not predictions"; yet one more reminder may be appropriate. Given certain assumptions, and assuming the mathematical competence of the researcher, projections can *never* be wrong. This does not mean they will eventually prove to be correct *predictions* of the future population size. It simply means that given X and Y, the population size will be Z in a given year. With this kind of information, planners and policymakers can better assess future societal needs.

A recent series of projections by this author have received attention in certain circles.[2] Simply, these illustrate the impact of various levels of net international migration on future U.S. population size given certain assumptions about fertility and mortality behavior. The most often cited of these alternative sets of projections assumes that fertility will remain low, that life expectancy will increase, and that net international migration will remain about 1 million annually – a not unreasonable set of assumptions given what is known about demographic behavior today.

Admittedly these projections can be misinterpreted or treated as predictions by some users, as a noted immigration specialist recently warned. But he also implied a skepticism about the value of the projected figures themselves when he added: "How seriously are we to take projections for 50 to 100 years? Suppose someone had used these projection methods during the Dillingham Commission of 1907-1911 [which studied immigration issues] and projected the population in 1980...."

Enter Demos P. Graphique

But are such projections doomed to be inaccurate? Such a claim warrants testing. Let us go back to 1907 and see just how that noted and ageless demographer, Demos P. Graphique,[3] developed projections of the future U.S. population in a 1907 article recently "discovered": "The Impact of Immigration on U.S. Population Size: 1900-2000," which uses the 1900 population of 75 million as its starting point.

First, certain assumptions were made about the demographic variables, as seen by 1907 state-of-the-art analyses. The following section is taken directly from the yellowing manuscript written by Graphique with his quill pen:

> *Fertility:* Currently, the U.S. total fertility rate (TFR) is about 3.4 births per woman, having fallen from 3.5 in 1900 and from approximately 4.5 in 1800. Evidence from certain European countries, notably Sweden, suggests even further decline. In a recent 1891 article, the former Director of the Census Bureau, Francis Walker, suggested that "the [low] fertility of native-born Americans reflected their concern with having their children brought up among so many foreigners."[4] This also suggests further drops in number of children born. It is thus concluded that fertility will fall by as much in the 20th century as it did in the 19th century. By the year 2000, the TFR will have reached an incredible 2.5 live births per woman." (Truly a provocative assumption to make in 1907 – Ed. note.) While many concerned Americans are worrying about the large immigrant families, some studies indicate that the second generation new Americans have families no larger than those of the native born. Thus, the fertility of both the native born and the immigrants is assumed to be the same throughout the 100-year period under analysis.
>
> *Mortality:* Currently (i.e., 1907 – Ed. note) life expectancy is about 45 years at birth and infant mortality is about 135 per 1,000 births. Little progress has been observed over the past decade, though some improvements have taken place in some European countries. Furthermore, many rumors are afloat concerning new drugs that may eliminate certain infectious killers. An increase in life expectancy from 47.5 years for females in 1900 to 62.5 years in the year 2000 is projected.*
>
> *Immigration:* Since 1900 immigration has generally exceeded 1 million persons per year and there is no sign of any letup. However, observers note that one-quarter to perhaps one-third of the immigrants soon become disenchanted with the U.S. and return to their homelands. It is

*Readers may suspect that the "West" family as developed by Coale and Demeny is being used. Indeed it is, but there is some question about whether this contributes a historical anachronism. True, neither Coale nor Demeny was yet born in 1907; however, Graphique has long exhibited extraordinary visionary qualities. He may have been aware of these future developments even then!

thus assumed (in Series 1) that annual net international migration will be 800,000 with an age distribution reflecting its overall youth: that is, 50 percent between the ages 20 and 35.

There is considerable pressure on the Congress to "do something" about tremendous hordes of people entering the country. An alternative assumption on immigration assumes that the Congress will indeed "do something." Thus the low assumption (Series 2) posits net international migration of 200,000 per year for the next century.

Still a third set of projections (Series 3) is developed assuming no immigration to allow for the discussion of the actual impact of immigration on future population size.

With these assumptions determined, Graphique developed age-specific fertility rates as well as age-specific survival rates and "projected" his population by five-year periods summing up every 10 years.** Given the limited knowledge available in 1907, the assumptions about future fertility, mortality, and immigration (the three demographic variables) appear quite reasonable even from the vantage point of the year 1981.

**This method eventually became known as the cohort-component method of projecting population, though Graphique did not get the credit.

Table 1
Projected Population of the U.S., 1950-2000, as Hypothetically Projected in 1907

Measure	1950	1980	2000
Series 1 - Annual net international migration = 800,000			
Total population (000s)	177,356	237,734	281,713
% of pop. consisting of post-1900 immigrants & their descendants	28.6	34.4	38.2
Crude birth rate (CBR)	22.5	20.1	18.5
Crude death rate (CDR)	15.5	14.3	13.9
% 65 and over	7.1	8.4	9.1
Series 2 - Annual net international migration = 200,000			
Total population (000s)	139,319	176,357	200,992
% of pop. consisting of post-1900 immigrants & their descendants	9.1	11.6	13.4
Crude birth rate (CBR)	22.9	20.2	18.7
Crude death rate (CDR)	15.5	14.3	14.0
% 65 and over	7.1	8.4	9.2
Series 3 - No international migration			
Total population (000s)	126,629	155,876	174,056
Crude birth rate (CBR)	23.0	20.3	18.8
Crude death rate (CDR)	15.5	14.3	14.1
% 65 and over	7.1	8.4	9.3

Source: Graphique, Demos P. "The Impact of Immigration on U.S. Population Size: 1900-2000"; see text.

Results

Series 1 (net international migration = 800,000). Given what is in 1907 the most likely future scenario (continuation of high levels of immigration), Table 1 shows the population projected for 1950 to be 177 million; for 1980, 238 million; for 2000, 282 million. Under such assumptions, the proportion of the population who are post-1900 immigrants and their descendants would increase from 28.6 percent in 1950 to 34.4 percent in 1980 to 38.2 percent in 2000. Further details about the population are included in the table.

Series 2. In 1907, pressure to set limits on immigration is increasing substantially, and a projection assuming 200,000 net international migration per year reflects that thinking. The population in 1950-1980-2000 under this assumption would be 139 million; 176 million; 201 million. The proportion of post-1980 immigrants and their descendants would be 9.1 percent; 11.6 percent; 13.4 percent respectively.

Series 1 comes amazingly close to being "on target," particularly the 1980 projection (238 million), which is a mere 4.9 percent above the official 1980 Census count. Looking ahead to the year 2000, Series 1 also comes remarkably close to the aforementioned U.S. growth projections prepared in 1980 by the author of this report (see Table 2).

However, Series 1 is inaccurate in projecting the impact of immigration on the composition of the population in future years. As Table 2 indicates, the actual impact has been much less than that projected by Series 1.

Continued on next page

Table 2
Actual Population of the U.S., 1950-1980, and Relatively Recent Population Projections for 2000

Population	Population (1,000s) 1950	1980	2000
U.S. Census	151,326	226,505	267,000[a]
Population assuming no immigration	132,325	181,964[b]	202,000[c]
% of pop. consisting of post-1900 immigrants and their descendants	12.6	19.7	25.5

[a]Approximation derived from Table 2, "The Impact of Immigration on U.S. Population Size." This assumes a TFR of 1.8 and net international migration of 750,000 per year. About 5 million is added to the total as the 1980 base population in the publication was 222 million rather than 226.5 million.

[b]Derived from C. Gibson, "The Contribution of Immigration to the U.S. Population Growth: 1790-1970," *International Migration Review*, Vol. IX, No. 2, Summer 1975, p. 172-174.

[c]Extension of Gibson's 1970 total assuming 0.5% annual rate of growth for 1970-80 and .4% for 1980-2000.

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Series 2, which assumes annual net international migration of 200,000, projects much smaller eventual population sizes as would be expected; furthermore, the proportion of post-1900 immigrants and their descendants is also much smaller, indeed somewhat smaller than that expected in the "real world" situation.

One can speculate as to how a policymaker in 1907 would interpret Graphique's data. Today's policymakers are constantly looking for one statistic – one number. Whenever high, medium, and low alternatives are offered, policymakers inevitably select the middle estimate. It is reasonable to assume that earlier policymakers would react in a similar manner. That is, looking at high and low projections, they would calculate a medium number. Given this assumption, what would the figures look like?

As Table 3 indicates, the projected medium totals for 1950, 1980, and 2000 are fairly close to the actual numbers, particularly to the proportion of the post-1900 immigrants and their descendants in the population. Certainly one can reasonably say that using either the high or the so-called medium projections does not yield estimates that are unrealistic.

Table 3
Projected "Medium" Population of the U.S., 1950-2000, as Hypothetically Projected in 1907

Item	1950	1980	2000
Total population (000s)	158,338	207,046	241,353
% of pop. consisting of post-1900 immigrants & their descendants	18.9	23.0	25.8
Crude birth rate (CBR)	22.7	20.2	18.6
Crude death rate (CDR)	15.5	14.3	14.0
% 65 and over	7.1	8.4	9.2

Source: Derived from Graphique's Series 1 and Series 2 projections; see Table 1.

Conclusion

Reasonable projections, insofar as what was known in 1907, apparently result in fairly reasonable estimates of the population 50-80-100 years later, despite dramatic upturns and downturns in all three demographic variables: variations that were totally unanticipated in 1907. Clearly, counteracting forces are at work not only between variables, but over time within variables as well. For example, declines in both fertility and mortality minimized any possible major variations in natural increase (births minus deaths); on the other hand, wide variations in immigration over the century result in an overall average annual net immigration close to 400,000.

Whatever the reasons, the end results suggest that population projections based on what appear to be reasonable assumptions at the time should not be ignored or considered to be fantasy. Admittedly they should be constantly reexamined as the demographic variables themselves change, but it is certainly high time to stop deprecating earlier projections made in 1930 and 1940 as well as the more recent attempts to describe "what would happen if," and bear in mind that the only goal of projection makers is to exhibit for the reader what would be the population size and composition of a specified area, in a specific future year if *certain assumptions* concerning fertility, mortality, and migration behavior in fact came to pass.□

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2. Leon F. Bouvier, "The Impact of Immigration on U.S. Population Size," *Population Trends and Public Policy*, Population Reference Bureau, Vol. 1, 1981.
3. The fictitious demographer Demos P. Graphique has "appeared" in previous issues of *INTERCOM* (see Aug./Sept. 1979 and Aug. 1977 issues).
4. Francis A. Walker, "Immigration and Degradation," *Forum*, Vol. 1, p. 637-644, 1891.

grants/contracts

• Fred Hutchinson Cancer Research Center, Seattle, Washington: **World Health Organization's Collaborative Study of Neoplasia and Steroid Contraceptives**, D.B. Thomas, et al., investigators. The objective of this hospital-based, multi-centered case-control study is to ascertain whether there is a relationship, particularly in developing countries, between the use of steroid contraceptives (oral and long-acting injectables) and neoplasms of the breast, cervix, corpus uteri, gallbladder, liver and ovary. All (cases and controls) will be interviewed, and except for suspected liver tumors, all cases will be diagnosed histologically by local collaborating pathologists and reviewed by reference pathologists. The results will be key-entered onto computer tape and edited at the coordinating center. It is anticipated that the initial phase of this study will run for five years, and it is tentatively planned to continue beyond five years to provide a mechanism for monitoring steroid contraceptives for carcinogenic effects that may become apparent in the future. (No supporting organization reported.)

• University of California, Los Angeles, School of Letters and Science: **The Prediction of Fertility Among Mexican Americans**, G. Sabagh, Dept. of Sociology, investigator. One objective of this project is to assess the predictive validity of reproductive intentions and to analyze the patterns of inconsistencies between these intentions and subsequent fertility among Mexican Americans as compared to the white majority population. The project will also examine variables including the life cycle, contraceptive use, socioeconomic status, wife's work experience, religiosity, country of upbringing, and ethnicity, and their effects on prospective fertility. The project will involve a follow-up of a probability sample of about 900 relatively fecund Mexican American wives who were interviewed in Los Angeles in 1973 in regard to the above subjects. Information will be obtained by interview, telephone, or letter. (Funded by the U.S. Dept. of HHS, Nat. Inst. of Child Health & Human Dev. FY 1981 $132,699.)

World Food Production Losing Momentum

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rently forces more than 100 countries to rely on purchases from the exportable surplus of North America, now the only major food-reporting region. In 1980, net grain exports from the U.S. and Canada totaled 131 million tons—nearly 40 percent of the harvest—compared to 14 million in 1950.

Further evidence of mounting pressures on world food resources, Brown says, is the leveling in the world fish catch since the early 1970s, despite increased investments in fishing capacity by corporations and governments—notably Japan and the Soviet Union. In addition, the long-term growth in beef production—still dependent mainly on grassland grazing—came to a halt in the mid-1970s.

The Drive to Raise Production

Brown anticipates that, because most good agricultural land is already under the plow, little more than 10 percent can be added to the world's cropland base by the century's end. "With projected population increases, this would leave us in the year 2000 with only 0.13 hectares (0.32 acres) of cereal land per person, well below the 0.17 hectares we each now have. Satisfying the two-thirds increase in world food demand projected by the United Nations for the remainder of this century will thus require a sharp increase in the productivity of existing cropland."

Brown sees the loss of topsoil and irrigated land heading the list of barriers to increasing land productivity. "The doubling of world grain output since 1950 has entailed land abuse so severe that fully one-fifth and perhaps as much as one-third of the world cropland is losing topsoil at a rate that is undermining its long-term productivity," he says. The Department of Agriculture reports that the inherent productivity of 34 percent of U.S. cropland is now falling because of the excessive loss of topsoil. Data compiled by the UN indicate that one-tenth of the world's irrigated area is waterlogged—21 million hectares. "The productivity of this land has fallen by an estimated 20 percent and almost as much land has been rendered less productive by salinization."

Increased applications of chemical fertilizer are reaping diminishing returns, Brown reports. World fertilizer use increased eightfold between 1950 and 1980—from 14 million tons to 113 million tons. In the 1950s, each additional million tons of fertilizer use was associated with an increase in the world grain harvest of over 11 million tons. In the 1970s, an additional million tons of fertilizer yielded only 6.8 million tons of additional grain. While response yields are potentially high in countries such as India and Argentina where applications rates are still low, "the use of chemical fertilizer is close to the saturation point in countries like the Netherlands and Japan and in the U.S. Corn Belt," Brown says.

Agricultural mismanagement and inefficiency also take their toll on world food production, particularly in the Soviet Union. Since 1972, Moscow has chosen to import grain rather than slaughtering livestock herds to offset crop shortfalls that have become chronic despite having the world's largest cropland base. The Soviet Union's import of 31 million tons of grain in 1980, for example—more than any country in history—is a major factor in world food shortages and volatile food prices.

World Bank/Roy Witlin

Meanwhile, worldwide conversion of cropland to nonfarm use is reducing the land available to produce food, Brown says. France and the United Kingdom, for example, lost nearly 2 percent of their agricultural land to urban encroachment in the 1960s. In the U.S., the world's leading food producer, well over half a million acres of cropland were converted to nonfarm uses each year between 1967 and 1975. In the drive to attain energy self-sufficiency, Brazil, the U.S., and the Philippines are among the countries now diverting food-producing resources, including land, to crops that can replace imported oil as a source of liquid fuels. In 1980, the U.S. set a goal for 1985 of increasing the annual production of corn-based ethanol to 2 million gallons, mixed in a 1:9 blend with gasoline to produce gasohol. "Meeting this goal would require distilling some 20 billion tons of grain, or roughly one-fifth of the U.S. exportable surplus," Brown observes.

Volatile Food Prices

With escalating prices of oil-based production inputs like fertilizer, pesticides, and tractor diesel oil, food prices were volatile during the 1970s, he notes. From 1950 to 1972, a bushel of wheat and a barrel of oil both cost about $1.8 on the international market. By 1980, it took six bushels of wheat to pay for a barrel of oil. "Now there are signs that food prices may begin a long-term climb as well," Brown says, further exacerbating the deterioration in diets evident

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in some Third World countries since the early 1970s. "In effect, the price of oil is pulling the price of food upward in its wake."

What Can Be Done

The principal cushion now remaining in the world food economy is the grain that is fed to livestock, Brown believes. Despite rising affluence in industrial countries and among Third World elites, that share has remained at about a third of world grain production since 1960, he reports. In the event of a dire world food emergency like that of 1973-1974, "millions of tons of grain and soybeans could be diverted from feed to food use."

More equitable food and income distribution and sharp increases in Third World crop yields are also essential if the world's poor are to be fed, he observes. India's attainment of self-sufficiency in the late 1970s demonstrates that given the right inputs, Third World farmers can increase yields dramatically.

But braking population growth is a first essential if food needs are to be met on a finite planet, Brown concludes. Though the growth rate has slowed to 1.7 percent a year from 2 percent in the mid-1960s, annual additions to world population are now close to 80 million and projected to rise close to 90 million by the year 2000, he points out. Pressures on food resources already evident with the world's current 4.5 billion population suggest that the stabilized world population of 10.5 billion in 2110, now projected by the United Nations, would be unsustainable. Brown urges that, instead, every effort should be made to stabilize world population at about 6 billion by 2020.

The first step in this timetable would be to reduce the average birth rate in developing countries from the current 31 per 1,000 population to 26 by 1990. Brown admits that this will require "a Herculean effort," but points out that some developing countries are already ahead of schedule. This includes China, with over a fifth of world population, where the birth rate is now 18 per 1,000 and a one-child-per-family campaign is under way in an effort to stop population growth by 2000 and actually reduce total numbers after that. (See INTERCOM, August 1981.) Moreover, "attitudes toward family size are changing and birth rates are stationary or falling almost everywhere," he observes. Currently, 27 countries containing close to 40 percent of world population have fertility rates at or below the level needed for generational replacement (2.1 to 2.5 births per woman, depending on a country's mortality conditions). "Once fertility settles at the replacement level or below, it is only a matter of time until population growth stops. Providing family planning services to all who want them is one of the most obvious ways governments can help slow population growth," Brown says. □

Additional copies of Brown's *Population Bulletin* (Vol. 36, No. 3), "World Food Resources and Population: The Narrowing Margin," which may be ordered from PRB's Circulation Department, P.O. Box 35012, Washington, D.C. 20013, are available at the following prices, prepaid: $2.00 per single copy; 2-49 copies, $1.75 each; 50 copies or more, $1.50 each. Colored slides of the *Bulletin*'s 16 charts and tables are available at $8.00 per set. For mailing inside the U.S., add 50 cents on orders of $5.00 or less. Outside the U.S., add 25 percent to the cost of all orders to cover handling and postage.

Indonesia's Age Pyramid Shows a Shrinking Base

by Morrie K. Blumberg

The Indonesian population pyramid base is shrinking: In October 1980 the number of children 0-4 years of age was over 500,000 *less* than the number of children aged 5-9 years, according to official 1980 population census figures that were released July 2, 1981.

(The April 1981 INTERCOM reported provisional census figures that had been released early in January.)

The official 1980 census results reported that there were 20.7 million children aged 0-4 years and 21.2 million children aged 5-9 years. In the 1971 Indonesian census there were over 300,000 *more* children aged 0-4 years than aged 5-9 years (19.1 million children aged 0-4 years; 18.8 million children aged 5-9 years).

The official 1980 census results reported a total population of 147,490,298, only 0.07 percent higher than the provisional census total that was released in January.

Extrapolating from the above data, percentages of the total population who were 0-4 years of age decreased from 16.1 percent in the 1971 census to 14.1 percent in the 1980 census. The Indonesian Central Bureau of Statistics still is processing 1980 census data. The data include the results of a 5 percent sample to help estimate 1980 birth rates, death rates, and contraceptive prevalence rates. In the meantime, however, official census data presently available can be used to compute the numbers of children aged 0-4 years per 1,000 women aged 15-49 years.

According to the 1971 Indonesian census there were 19.2 million children aged 0-4 years and 26.3 million women aged 15-49 years; in 1980 there were 20.7 million children aged 0-4 years and 36.4 million women aged 15-49 years. Over the nine-year period from 1971 to 1980 there was a 22 percent reduction in numbers of children aged 0-4 years per 1,000 women aged 15-49 years: 730 in 1971; 569 in 1980.

Because there has been no indication to date either that census underreporting was higher in 1980 than in 1971 or that infant and child mortality rates were higher during the 1976-1980 period than during the 1967-1971 period, the official age distributions reported in the 1971 and 1980 censuses appear to document independently the growing effectiveness of Indonesia's expanding nationwide family planning program.

Following are some additional items of interest from the official 1980 census results that have been released to date:

- Percentages of all Indonesians 10 years of age and older who had not yet married increased from 34.3 percent in the 1971 census to 36.3 percent in 1980.
- The percentages of all rural households who owned less than 0.5 hectares of land increased from 45.7 percent in the 1973 (*sic*) agricultural census to 63.1 percent in the 1980 population census.
- Percentages of rural families who farmed only their own land decreased from 74.8 percent in 1973 to 73.6 percent in 1980. Those who worked both their own and other persons' land decreased from 22.0 percent to 11.5 percent. Those who worked only for other persons increased from 3.2 percent in 1971 to 14.9 percent in 1980.

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• Percentages of children aged 7-12 years who were in school at the time of the census increased from 59.9 percent in 1971 to 84.8 percent in 1980. In 1980, in addition to the 84.8 percent of children aged 7-12 years who were in school at the time of the census, an additional 4.5 percent had been in school but were out of school at census time. Only 10.7 percent of children aged 7-12 years had never gone to school.

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Coming—the $150,000+ Home?

Worldwatch Paper 46, "Global Housing Prospects: The Resource Constraints," predicts rising costs and increasing demands for housing by the end of the decade for both developed and developing nations. A combination of population growth, economic conditions, and social trends create housing demands that will mean a housing future quite different from the past, according to the new Worldwatch study funded by the United Nations Fund for Population Activities.

As a result of the high demand for cheap capital, energy, land, and materials, the western-modeled, free-standing, single-family dwelling is a thing of the past, according to author Bruce Stokes, a senior researcher at the Washington-based organization. "The home of the future will be built with an eye toward economizing resources. More people will live in townhouses or apartments that are smaller and have fewer conveniences than people have come to expect."

These same resource constraints and increasing demands will mean even poorer housing conditions in the Third World countries. Most people in the developing nations will never live in the standard homes that U.S. suburbanites are (or were) accustomed to. Size and affordability of a new home in Canada, Sweden, Japan, and the United States will change as a result of rising prices. The median price of a new home in the United States, about $50,000 in 1970, could reach as high as $150,000 by the end of the 1980s. People in developing nations may not even be able to afford the cheapest dwellings, not to mention adequate clean water and sewage disposal facilities.

"The cost and quality of a home are determined by the type of land it stands on and the materials, energy, and financing that go into building it," says Stokes. As a result of increased demand for housing space, especially in growing cities, land prices now constitute one-quarter of the costs of housing as opposed to only one-tenth a generation ago. Scarcity of wood has hiked material costs and forced the substitution of lumber by plywood and by plastic and other nonwood products. Immediate and long-term energy costs are also affected by construction materials chosen. Energy constraints will determine the quality of the new home and the life style of its inhabitants. In addition, economic conditions, particularly inflation and interest rates, affect the cost and quality of a home.

Stokes concludes that supply and demand policies should be implemented now. "Rising housing prices in the industrial world threaten to create a politically dangerous division between a dwindling number of homeowners and all those who cannot afford their own home. Nearly a billion people in the Third World already live in wretched conditions and their numbers are growing. Through effective family programs and better management of supplies of land, building materials, capital, and energy, society can increase the chances that today's children will live in better housing than their parents do now."

Copies of *Worldwatch Paper 46,* "Global Housing Prospects: The Resource Constraints," by Bruce Stokes, are available from PRB. Single copies are $2.00 each; 2-10 copies, $1.50 each; 11-51 copies, $1.25 each; 51 or more, $1.00 each. Orders and remittances should be sent to the Population Reference Bureau, P.O. Box 35012, Washington, D.C. 20013. (PRB assists Worldwatch Institute in the distribution of its papers.)

Contraceptive Use on Increase

A convenient reference source which pools together data describing family planning practices in 63 less developed and more developed countries has been published by the Population Reference Bureau. The 14-page report, *Patterns of Contraceptive Use Around the World,* presents and discusses internationally comparable statistics which are designed to give the reader a quick and accurate impression of the extent to which couples in different countries are actively controlling their fertility. Detailed tables give greater depth to the portrait of contraceptive use in each country by specifying the methods that are most commonly used, the ages at which women are most likely to be contracepting and the average age of users of each method.

The report resulted from data collection by PRB's Special Project, which is compiling and analyzing demographic and family planning information for the U.S. Agency for International Development. *Patterns of Contraceptive Use* is designed to complement the recently published *Fertility and the Status of Women* data sheet.

Both PRB publications rely on the same family planning data sources. The report gives greater detail about the sources such as the year the information was collected, the age of the women studied and the type of data source, as well as contraceptive use. The data sheet covers a wide variety of subjects so family planning statistics from each country can be placed in a broader demographic and socioeconomic context.

The new report shows that the prevalence of contraceptive use is very low in Africa and low to moderate in most of Latin America. Yet high rates of contraception are being achieved in many areas and family planning is no longer unique to the Western world. Panama, Costa Rica, and Singapore are some of the developing countries with contraceptive use rates on par with those found in the United States and Europe.

The age of contraceptors is an important demographic fact because younger women are more fertile than older women. Family planning will be the most effective in lowering national birth rates if the average age of users is kept reasonably young. However, large proportions of women in the developing world tend to rely on contraceptives only during the middle of their childbearing years. Surgical sterilization, and to a lesser extent the IUD and traditional methods (rhythm, withdrawal and abstinence) are methods favored by older women.

Single copies of the report are free from PRB; for mail orders there is a $1.00 handling charge. Bulk order charges are available on request. Write: PRB, Circulation Dept., 1337 Connecticut Ave. N.W., Washington, D.C. 20036

wfs update

Carl Haub, PRB Staff Demographer, prepared this report on the World Fertility Survey. Additional reports on the survey, which will ultimately cover 61 countries, will appear in INTERCOM as results become available.

Copies of the WFS Country Reports may be obtained from the World Fertility Survey, 428 Prinses Beatrixaan, 2770 AZ Voorburg, Netherlands.

Haiti

The Country Report of the Haiti World Fertility Survey, conducted in 1977, has now been published. As WFS reports in other developing countries have done, this survey sheds a great deal of light on the population dynamics of a country for which reliable data have long been lacking.

Haiti occupies the western half of the island of Hispanola between Cuba and Puerto Rico, sharing a 241-mile border with the Dominican Republic. The population of the country now stands at around 6 million, about double that of 1950. Growth of the population has been retarded somewhat by emigration. Since 1950, about 350,000 Haitians are thought to have left the country, 200,000 of those to the U.S. Haiti is a very rural country. Only about 15 percent of the people live in either the capital, Port-au-Prince, or in towns of 10,000 or more population. The majority are scattered in small rural settlements or live in remote rural parts of this predominantly mountainous country.

Survey questions on birth histories suggest that there has been a very gradual decline in Haitian fertility, but that the current level is still rather high. During the late 1960s, the total fertility rate (TFR) was about 6.2 children per woman, the same rate as previous estimates. By the period 1974-1977, the TFR had declined to about 5.5 nationwide. The respondents' difficulties remembering the dates of all of their childrens' births make year-by-year estimates of the TFR unreliable. A wide urban-rural differential was noted, in that rural women had about 6.2 lifetime births, while women living in Port-au-Prince had about 4.

In general, actual fertility levels appear to be quite a bit higher than the number of children the women said that they would like to have. The youngest (15-24) married women in the survey stated that they wanted 3 children each; this expressed desire rose steadily with the respondents' ages. For the 45-49-year-old women, the difference between their desired number of children, 4.2, and the actual number of children born to them, about 6, reveals a considerable amount of undesired childbearing during their lifetime.

Knowledge of a method of contraception is quite widespread, perhaps surprisingly so given the rural nature of the country. In all, 85 percent of the respondents indicated that they had heard of a method. Women who had at least four years of primary schooling all said that they knew of a method. Of the women who had ever been in a union, 36 percent said that they had ever used a method. The tendency to use contraception rose with the number of children a woman has had, particularly after the first. Use of a method was highest among those in the 15-24 age group, with half of those with 2 living children indicating that they had ever used a method. The proportion of women who were "exposed" to the risk of pregnancy who were actually using a method was about 25 percent; this rose to about one-third of the exposed women after the second birth among those under age 35.

There has been increasing concern expressed by the government of Haiti over population growth and land availability as well as maternal and child health. The Haiti WFS estimated an annual infant mortality rate of 124 infant deaths per 1,000 live births for the 1971-1975 period. Although there has been a concerted effort to spread family planning and child health services to much of this rural country's population, WFS results suggest at least a moderately high fertility level for Haiti for some time to come. □

World Refugee Levels Continue Unabated

The number of unsettled refugees in the world presently stands at over 10 million, according to the UN High Commissioner for Refugees.

The largest group remains the Afghan refugees currently in camps in Pakistan; their registered number is nearly 2.3 million.

The Indochinese exodus continues. In the month of July alone, 6,340 Indochinese refugees sought and found refuge, but 158,648 (including some 58,466 "boat people") were still awaiting permanent asylum at the end of the month.

Scattered over several Latin American countries are an estimated 200,000 Salvadoran refugees seeking homes because of instability in their own nation.

Africa offers assistance to about half of the refugees in the world – some 4 to 6 million of them. Chad has granted amnesty to political exiles and allowed a return of 60,000 from Cameroon, the Central African Republic, Nigeria and Sudan. Zaire and Sudan have received 45,000 Ugandan refugees, bringing the current total to 105,000 and 80,000 respectively. Uganda itself has taken in 113,000, the majority of them from Rwanda. Ethiopian refugees have settled in Somalia and Sudan, 1.3 million and 400,000 respectively.

world food news

"The Maize Train"

Surplus corn from Zimbabwe is now rolling to destinations in eastern, western, and southern Africa, aboard a recently inaugurated special train service. Dubbed "the WFP Maize Train," it is a daily food express from Vila di Manica near Zimbabwe's border, through Mozambique, to the Indian Ocean port of Beira.

The 13-car train travels 346 kilometers, loaded with up to 500 tons of Zimbabwe white corn, of which the country had 1 million tons of surplus, with no means of moving it.

The train is the brainchild of the World Food Programme (WFP), jointly administered by the United Nations and the FAO. WFP supports projects in Mozambique, Zambia, Tanzania, Uganda, Kenya, Somalia, Angola, Senegal, and Mali, both to help meet emergency food needs and for economic and social development in those countries. Moving corn – the staple diet of most people in Africa benefiting from WFP assistance – from all the way across the ocean entailed heavy shipping costs. In Zimbabwe alone, a million tons of corn lay in stock. Consultations began with Zimbabwe and Mozambique early this year and the Maize Train made its maiden run at the end of June.

WFP Acting Executive Director Bernardo Brito said that the Maize Train reflects a major breakthrough. Not only does it mean savings in transport costs to WFP and the bilateral donors, but the Maize Train offers many additional benefits. It offers hard currency to Zimbabwe while reducing the country's unwanted stocks; Mozambique earns foreign exchange as a transit country; and, of course, the maize supplies are much needed in the less fortunate countries in eastern, western and southern Africa. The newly opened train service also fits into the regional food strategy, aimed at reducing external dependence.

Corn from landlocked Zimbabwe could only reach the sea through Mozambique. Years of unrest left Mozambique with only two railway lines, with limited capacity, while a third was practically abandoned. With Zimbabwe's independence in April 1980, corn as a produce was unable to compete with other exports from Zimbabwe for the limited transportation available. Mozambique responded to WFP's initiative by renewing the third railway line, on condition that WFP found the means for purchase and shipment of the corn.

After consulting with several bilateral donors of food aid to eastern, western and southern Africa, WFP was able to offer the guarantee.

Commitments of about 60,000 metric tons have already been made, and the total quantity shipped could well reach 100,000 tons before the end of the year. WFP is buying corn from its own resources as well as on behalf of bilateral donors.

Mr. Brito said that WFP's involvement goes well beyond the Maize Train. The modest food express is making a contribution to increased welfare all round the subregion, not the least being the bringing of much-needed food supplies to eastern, western and southern Africa.□

WORLD FOOD DAY
16 October 1981

The first World Food Day will be celebrated Oct. 16, 1981, the anniversary of the founding of the Food and Agriculture Organization (FAO) of the UN. On that day people around the world will join together to demonstrate their belief that food is a basic human right and their commitment to ending the scourge of hunger.

Observances marking World Food Day are to be held at the UN in New York, at the Organization of American States in Washington, D.C., and many other places in the U.S. and other countries, including seminars, food collections, hunger walks, and community meetings.

For further information about World Food Day, contact: the National Committee for World Food Day, 1776 F St. N.W., Washington, D.C. 20437; phone (202) 376-2306.

positions/professionals

Chief, Fertility Services, the Pathfinder Fund, Boston, to head that foundation's Fertility Services Division, which develops population and family planning programs that provide clinical and nonclinical services, train service providers, follow new developments in fertility regulation, and introduce family planning into new areas. The Chief supervises and gives overall direction to these activities. *Qualifications:* M.D. or a public health professional; a thorough familiarity with issues of international health and family planning and a sensitivity to Third World needs. Also preferred, Third World experience, an ability to teach effectively in multidisciplinary cross-cultural settings, and a fluency in either French or Spanish. *Contact by Oct. 30 (including a curriculum vitae and three references):* Howard K. Gray, Jr., Executive Director, The Pathfinder Fund, 1330 Boyleston St., Chestnut Hill (Boston), Mass. 02167.

Vital Statistics Update

Latest Provisional Vital Statistics for the U.S.: May 1981

	12 months ending with May			
	Number		Rate	
Item	1981	1980	1981	1980
Live births	3,628,000	3,535,000	15.9	15.7
Deaths	2,004,000	1,953,000	8.8	8.7
Natural increase	1,624,000	1,582,000	7.1	7.0
Marriages	2,422,000	2,392,000	10.6	10.6
Divorces	1,195,000	1,179,000	5.2	5.2
Infant deaths	44,600	45,300	12.3	12.8
Population base (in millions)	...	...	228.2	225.7

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates for 1980 are based on revised population estimates.

Source. Monthly Vital Statistics Report (Vol. 30, No. 5) from the National Center for Health Statistics.

current readings

PRB welcomes materials on population topics for inclusion in Current Readings. Address review copies to Book Review Editor, INTERCOM, Population Reference Bureau, 1337 Connecticut Ave. NW, Washington, DC 20036.

THE ULTIMATE RESOURCE, by Julian L. Simon. Princeton, N.J.: Princeton University Press, 1981. 403 pp. $14.50. ISBN 0-691-09389-X. LC 80-8575.

As a young economist, Julian Simon accepted the widely held assumption that rapid population growth, resource depletion, and environmental decline are serious global concerns. But, as he explains in his new book, while he was recovering from a prolonged bout with depression some years ago, his personal values and perception of the available population data both began to change towards optimism. The result is *The Ultimate Resource*, a dramatic presentation designed to counteract what Simon considers daily propaganda for population "control." According to Simon, energy and resources are not becoming scarcer, there will be abundant food in the future, and population growth should actually be encouraged ("...population growth bodes well rather than ill for civilization, in the long run.") He concedes that there are problems, but none that cannot be handled by earth's ultimate resource: people and their creativity and spirit. Technology and invention will advance as the needs increase; and the more people there are, the greater the creativity pool from which these advances will come. Simon presents various charts and tables to support his view, but his basic disagreement with most population groups comes down to values. Simon feels that any human existence is basically better than nonexistence, and he makes an emotional plea for the millions of people who by the use of contraception were never conceived. ("...I find no logic implicit in the thinking of those who are horrified at the starvation of a comparatively few people in a faraway country...but who are positively gleeful with the thought that 1 million or 10 million times that many lives will never be lived that might be lived.") In the end, Simon's perceptions and moral values dominate this most unusual book, and those who agree will applaud and those who disagree will read it in sorrow. —*Judy C. Felt*

THE FUTURE OF THE BRITISH CONURBATIONS, Edited by Gordon Cameron. New York: Longman, 1980. 323pp. $38.00, $14.30 paper. ISBN 0-582-44389-X; 0-582-44390-3, LC 79-40544.

This is a collection of essays, written specifically for this publication in an attempt to objectively assess the future of major British metropolitan regions, or conurbations. The range of the chapters is fairly comprehensive touching on the subjects of fiscal policy, unemployment, housing and education, among others. While the book tries not to be pessimistic, the state of urban areas worldwide plus the present state of the British economy do not produce a rosy picture. Christopher Foster points out in his chapter on housing that bad housing does not necessarily denote poverty, but rather that better housing is simply not available. The text is well supplemented by charts and graphs as well as a divisional map of each of the conurbations discussed. In most of the essays both present and historical factors are used to show the direction of British urban life. Possible policies for the future which would serve to improve the existing condition of the conurbation are also presented with references.

—*Ed Beemer*

THE UPROOTED OF THE WESTERN SAHEL: Migrants' Quest for Cash in Senegambia, by Lucie Gallistel Colvin, et al. New York: Praeger, 1981. 385 pp. $32.95. ISBN 0-03-057599-0 LC 81-5005.

This enlightening study of migration in the Western Sahel is multidisciplinary in scope, relating population movements to the past and present economies of the region. Chapters of the book are devoted to historical background, individual country studies of Senegal, Mauritania, Mali, and the Gambia, and policy implications in the realms of economics, education, rural and urban development and health care which directly affect migration in the Senegambia. The general objective of the geographers, sociologists, and social and economic historians who authored this book is to contribute "a new methodological approach to the study of migration." As a means of accomplishing this goal, predominant migratory patterns are examined and related to the historical evolution of public policy and current policy alternatives. The applicability of migration theories analyzing the economic repercussions of remittances and costs and benefits of labor migration is assessed for local sending and receiving zones. Data for analysis are drawn from extensive field work, censuses, annual statistical summaries in addition to various recent studies by such specialists as John Caldwell. Numerous figures, maps, and tables are included, as well as an impressive 42-page bibliography. Colvin et al. provide valuable insight into the interaction of key factors determining the development of an important area of western Africa, particularly the rapid expansion of Senegambian cities and towns. —*Suzanne McLees*

MALNOURISHED CHILDREN OF THE RURAL POOR—THE WEB OF FOOD, HEALTH, EDUCATION, FERTILITY, AND AGRICULTURAL PRODUCTION, by Judith B. Balderston, Alan B. Wilson, Maria E. Freire, and Mari S. Simonen. Boston, Mass.: Auburn, 1981. 204 pp. $19.95. ISBN 0-86569-071-5. LC 81-3483.

This book is the result of the collaborative efforts of four members of the Berkeley Project on Education & Nutrition at the University of California, Berkeley. It is based on two sets of data—a longitudinal study by INCAP (Institute of Nutrition of Central America and Panama) carried out between 1969 and 1978, and a study by RAND done between 1974-1975—which were undertaken in four rural villages in Eastern Guatemala. The intent of the study was to investigate the relationships between nutrition and education and out-of-school performance of young people by testing various hypotheses regarding the relationships between health, education, and nutrition. In addition, an analysis of how acceptance of nutritional supplementation, health care, contraception, and education would relate to parental literacy, family income, and education.

This book is unique in that it "is one of the first studies to examine the effects on very young children of social programs in several life areas. It provides an integrated picture of the several aspects of rural poverty...and establishes strong evidence that food and education are closely linked as elements of utmost importance to developing nations." In addition to presenting chapters devoted to the need for the research, the data sources, and the analytical findings, the book concludes with a chapter which discusses the policy implications of the research findings. These recommendations have a wide range of applicability for people in a variety of fields. Therefore, this book would be of extreme interest to those not only in the fields of education and nutrition but to those in family planning, public health, economics, rural development policy making, and international planning.

—*Lisa Olson*